State Administrative Tribunal of Western Australia DR 63 of 2022

Planning and Development Act 2005 (WA), section 252(1)

Called-in by the Minister for Planning

Planning and Development Act 2005 (WA), section 246

IN THE MATTER OF

B & J CATALANO PTY LTD Applicant

and

SHIRE OF HARVEY Respondent

APPLICANT'S SUBMISSIONS TO THE MINISTER

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INTRODUCTION

1. Following please find submissions made on behalf of B & J Catalano Pty Ltd (**Applicant or BJC**) in support of an application for development approval under the Shire of Harvey District Planning Scheme No.1 (**Scheme**) in respect of an area of the property at Lot 7 Runnymede Road, Wellesley (**Lot 7**), for the purposes of extractive industry.

2. These submissions comprise

   (a) background information regarding Lot 7 and the locality;

   (b) background information concerning BJC;

   (c) background information regarding the history of approvals and operations on Lot 7;

   (d) information concerning the application, including the reasons for refusal given by the Shire; and

   (e) submissions as to the issues for consideration by the Minister.

3. These submissions are accompanied by Statements prepared by the following experts –

   (a) Mr Stephen Allerding (Allerding & Associates), town planner;

   (b) Mr Mike Lundstrom (Lundstrom Environmental), environmental consultant

   (c) Mr Lindsay Stephens (Landform Research), geological consultant

4. Relevant documents that are referred to in these submissions are provided as annexures to the Statement of Stephen Allerding and are identified as such.

LOT 7 AND THE LOCALITY

5. Lot 7 Runnymede Road, Wellesley is the land contained in Certificate of Title Volume 1358 Folio 260 (**Lot 7**).

6. Lot 7 has a total area of 80.16 hectares. A Location and Site Plan are included as **Annexure SGA5 to the Statement of Stephen Allerding**.

7. Approximately 10 hectares of Lot 7 is currently used for sand extraction, with the remaining 70 hectares comprising –

   (a) an area utilised as a screening buffer to Runnymede Road to the west; and

   (b) the balance of Lot 7 to the east, which remains in a natural vegetated condition.

8. One of the aerial photographs contained in **Annexure SGA5** (with an out-of-date photograph) includes the land contours applicable to Lot 7 which shows the topography ranging from 12 metres along Runnymede Road up to a height of 52 metres in the eastern portion of the Site. This is significant in the context of sand extraction on Lot 7 generally, because it depicts a very large volume of sand contained on Lot 7, particularly when considered together with adjoining properties both north and south. This provides a comparative advantage because Lot 7 has capabilities of providing a very large volume of sand within a relatively small geographical space because of the depth profile for the extraction of sand. Overall this provides benefits because if extraction is permitted it potentially preserves other locations from requiring clearing and extraction because of the comparative efficiencies of having a large sand volume within a comparatively small footprint on Lot 7.

9. As depicted on the aerial images in **Annexure SGA5**, sand extraction forms one of the predominant land use activities in the immediate area.

10. To the immediate north of Lot 7 is Lot 21 Runnymede Road (**Lot 21**), which is currently being extracted for sand by MRWA (Southern Gateway Alliance) specifically for the Bunbury Outer Ring Road (**BORR**). Lot 21 is approved to provide the most significant supply of sand specifically for the BORR and the extraction on Lot 21 has been designed in conjunction with Lot 7 to enable a seamless arrangement of extraction between the two pits without requirement for separate battering along the boundaries.

11. To the immediate south of Lot 7 is Lot 4 Runnymede Road (**Lot 4**) which is also utilised for Extractive Industries and is also owned and operated by the Applicant. Lot 4 also has a deep sand profile with levels ranging from 12m to 46m, which also enables a significant volume of sand to be extracted on Lot 4 within a relatively small geographical footprint given the depth of the sand profile. Further south of Lot 7, on the southern side of Wellesley Road North, are Lots 70 and Lot 5, both of which also conduct sand extraction operations.

12. Sand extraction in this area is unsurprising given that Lots 4, 7 and 21 are all identified within a Significant Geological Supply (**SGS**) as identified under the State Planning Policy 2.4 – Basic Raw Materials Policy (**SPP2.4**). A copy of SPP2.4 is provided as **Annexure SGA11 to the Statement of Stephen Allerding**. Also provided, as **Annexure SGA6 to the Statement of Stephen Allerding** is a plan showing the extent of the SGS identified in SPP2.4, overlaid on an aerial photograph of the locality.

13. To the west of Runnymede Road is land that is utilised for General Rural purposes. The Forrest Highway is located approximately 2km's to the west.

14. To the east of Lot 7 is extensive land utilised for activities within the Kemerton Buffer and land maintained in a natural state.

15. There are no residences located within 500m of the proposed extraction area on Lot 7. The closest dwelling is zoned Kemerton Buffer and the land has been acquired by the WA Land Authority as part of the authority's ongoing program to acquire dwellings within the Buffer zone. The Kemerton Buffer zone is a zone specifically created to protect the heavy industrial precinct of the Kemerton Core. Consequently, within the Kemerton Buffer zone, no residential dwellings or other sensitive developments are permitted under the Shire of Harvey's Town Planning Scheme No. 1 (**TPS1**) or the Greater Bunbury Region Scheme (**GBRS**).

THE APPLICANT

16. BJC was established in 1962 by brothers Bill Catalano and Joe Catalano. BJC was initially founded to provide a service to the local rural community of the south-west region of Western Australia.

17. Today, BJC is one of the leading earthmoving, transport and civil contracting companies in Western Australia.

18. Bill Catalano remains a director of the company and, along with his son, Stephen, and Joe's son, Clem, they work with an experienced management team to oversee the strategic direction and day-to-day operations of the business.

19. BJC employs approximately 300 workers across the State in its various operations, and offers full end-to-end transport, material supply and civil contracting solutions. It has a comprehensive range of earthmoving and materials processing equipment, complemented by an extensive fleet of trucks and tankers.

20. BJC also operates numerous pits throughout the State, from which it supplies customers with sand, gravel and limestone products, from a 10 cubic metre load up to significant tonnages for major construction projects. They also operate a number of crushing and screening circuits and provide contract crushing and screening services.

21. The range of products includes:

Sand Products	**Gravel Products**	**Limestone Products**
Fill sand	Main Roads WA specification gravels for road construction	Main Roads WA specification limestone for road construction
Screened sand	Gravel rock spalls and filter rock	Limestone rock spalls and filter rock
Brickies sand	Specialised gravels for rammed earth, block construction, decorative and driveways/paths	Specialised limestone for block construction
Washed sand	Sizes range from 7mm to 400mm rock	
Landscaping sand, cream yellow or white.		

22. BJC's customers include large corporations, local and State government departments, mining companies, builders and contractors, engaged in both long-term contracts and short-term works.

23. BJC is the largest supplier in the Bunbury region of screened sand for house construction (brickies etc.), washed sand for concrete products, fill sand for construction pads and roads.

HISTORY OF APPROVALS AND OPERATIONS ON LOT 7

24. BJC has been operating the Runnymede sand pit for around 15 years, initially on Lot 4 and, from about 2016, also on Lot 7. During this time the pit has been consistently yielding to the market around 100,000 tonnes of sand, with the bulk of that sand being used for building and construction in the greater Bunbury region including the Shire of Harvey.

25. The Lot 4 and Lot 7 properties were purchased by BJC in 2006, for several reasons, including the following :

(a) the sand was tested and showed to be high grade and multi-purpose across various different locations within the pit area;

(b) the properties were identified as part of a strategic geological resource and SGS for the State;

(c) there was a significant mining future in the pit allowing for a very long-term pit life of approximately 50 years (at previous extraction volumes);

(d) the depth of the resource was significant and allowed for larger volumes to be extracted with small amounts of clearing etc; and

(e) the resource has been reviewed by the local first nations communities and contains no indigenous sites.

26. Clearing Permit CPS3989/1 was granted on 11 November 2010 by the then DEC under the *Environmental Protection Act 1986 (WA)* and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2044 (WA)*, in respect of an area of 2.86 hectares of Lot 7, with a duration of 2 years, for the purposes of establishing the extractive industry operations on Lot 7 (**2010 Clearing Permit**).

27. Approval EPBC 2011/5996 was granted on 18 November 2011 by the then Commonwealth Department of Sustainability, Environment, Water, Population and Communities under the *Environmental Protection and Biodiversity Conservation Act 1999 (Cth)*, for the purposes of the sand extraction from Lot 7 (**2011 EPBC Approval**). The Application for the 2011 EPBC Approval was accompanied by a management plan and flora & fauna survey carried out by Ecoedge Environmental Pty Ltd.

28. Development Approval for the extractive industry operations on Lot 7 was granted by the Respondent under the Scheme, on 6 December 2011, with a term of 5 years (**2011 Development Approval**). An Extractive Industries Licence was also granted by the Respondent under its *Extractive Industries Local Laws* on the same date, with the same term (**2011 EIL**).

29. Clearing Permit CPS5480/1 was granted on 12 April 2013 by the DEC in respect of the same area as the 2010 Clearing Permit, which had expired (**2013 Clearing Permit**), with a duration of 10 years.

30. Extraction of sand from Lot 7 commenced in 2016, in accordance with the 2011 EPBC Approval, the 2011 Development Approval, the 2011 EIL and the 2013 Clearing Permit.

31. A further Development Approval and Extractive Industries Licence for the extractive industry operations on Lot 7 were granted by the Respondent under the Scheme on 10 April 2017 (**2017 Development Approval**; **2017 EIL**), to replace the 2011 Development Approval and 2011 EIL which had expired. These approvals refer to Stages 1, 2 and 3 within the original extraction area and were granted for terms expiring in April 2022.

32. The applications for the 2017 Development Approval and 2017 EIL were accompanied by a management plan and various reports prepared by Lundstrom Environmental Pty Ltd.

33. Extraction of sand from Lot 7 continued in accordance with the 2017 Development Approval and the 2017 EIL, in Stages 1, 2 and 3.

34. Over this period, sand extraction operations were also approved and carried out by BJC on the adjoining Lot 4, referred to above, coordinating with the operations carried out Lot 7.

35. As also referred to above, during this period sand extraction also commenced on the adjoining Lot 21, which is owned by BJC, with that extraction being carried out by MRWA (Southern Gateway Alliance) specifically for the BORR and with the extraction areas designed in conjunction with Lot 7 to enable a seamless arrangement of extraction between the two pits without requirement for separate battering along the boundaries.

36. A further Development Approval was granted by the Respondent on 10 September 2020 (**2020 Development Approval**) and a corresponding Extractive Industries Licence was granted on 19 July 2021 (**2021 EIL**), in respect of an additional area, referred to as Stage 4 of the extractive industry operations on Lot 7, located on the boundary between Lot 7 and the adjoining Lot 21, to coordinate with the extraction of sand on Lot 21 by MRWA and allow for the extraction of sand on both Lot 7 and Lot 21 without a batter on the boundaries of the properties. Both the 2020 Development Approval and the 2021 EIL were granted for a term expiring on 19 July 2026.

37. The applications for the 2020 Development Approval and the 2021 EIL were accompanied by a management plan and various reports prepared by Lundstrom Environmental Pty Ltd.

38. Clearing Permit CPS8916/1 was granted on 11 August 2021 by the DWER in respect of a further area of 1.97 hectares of Lot 7, and being the area the subject of the 2020 Approval and the 2021 EIL, with a duration of 10 years to 3 September 2031, (**2021 Clearing Permit**).

39. A further Development Approval and Extractive Industries Licence for the Stages 1, 2 and 3 of the extractive industry operations on Lot 7 were granted by the Respondent on 20 and 23 June 2022, respectively (**2022 Development Approval**; **2022 EIL**), to replace the 2017 Development Approval and 2017 EIL which had expired.

40. The applications for the 2022 Development Approval and the 2022 EIL were accompanied by a management plan and various reports prepared by Lundstrom Environmental Pty Ltd.

41. The 2022 Development Approval and 2022 EIL (for Stages 1, 2 and 3) and the 2022 Development Approval and 2021 EIL (for Stage 4) remain current, as does the 2013 Clearing Permit (for Stages 1, 2 and 3) and the 2021 Clearing Permit (for Stage 4).

THE APPLICATION

42. The present application was lodged by BJC in September 2021 (**Application**) as an application for both development approval and an extractive industry licence for an extension of Stage 4 of the extractive industry operations on Lot 7, as approved by the 2020 Development Approval and the 2021 EIL.

43. The Application was accompanied by a management plan and various reports, dated September 2021, prepared by Lundstrom Environmental Pty Ltd, including full details of the Application. A copy of this document is **Annexure SGA2 to the Statement of Stephen Allerding** and following is a summary of information regarding the Application.

44. A plan showing the extraction area proposed for the purposes of the Application is included within **Annexure SGA2**. The area comprises only 1.17 hectares, located immediately to the east of the current approved area for Stage 1, 2, and 3 (the subject of the 2022 Development Approval and 2022 EIL) and to the south of the current approved area for Stage 4 (the subject of the 2020 Development Approval and 2021 EIL) (**Review Site**) (**Stage 4 Extension**).

45. The Review Site forms an extension of the current Stage 4 of the extractive industry operations on Lot 7 (and is referred to in some documentation as the "Stage 4 Extension"), with logical staging of extraction being from west to east towards the hill which is contained east of the Review Site.

46. BJC propose to extract a total of approximately 70,000m3 of sand from the Review Site.

47. The total extraction area of Stage 4 (include the Stage 4 Extension) will be 3.13ha, resulting in a combined resource of approximately 195,000m3.

48. The above resource plus the batters (~90,000m3) will bring the total resource from this approval to 285,000m3, and with approximately 80,000m3 remaining from the existing EIL area, the total Lot 7 resource is estimated as 365,000m3. Annual extraction will be approximately 70,000m3 per annum, this may vary depending on the demand for sand.

49. In addition to the area and volume directly associated with the Application, approval of the Application will enable relocation of the existing approved batter which will enable access to additional sand resources on Lot 7. In addition, it will enable the MRWA to access the full extent of resources on adjoining Lot 21 through removal of the intervening batter between Lots 7 and 21.

50. Proposed mining actions are as follows:

    (a) The active area will be stripped of topsoil, which will be placed in stockpiles within the extraction area.

    (b) Within the active cell, sand will be excavated using a front-end loader and bulldozer. Trucks will enter the pit from via Runnymede Road to be loaded from the stockpile by a front-end loader.

    (c) The depth of the excavation within the new EIL area is constrained by the fact that the entire area needs to serve as a batter to the Main Roads pit on Lot 21. Excavation will only proceed until a minimum of approximately 10m AHD is reached in the north western corner of Stage 4. The final land surface will slope upwards to the north-eastern corner which will have final elevation of approximately 33m AHD Stage 4.

    (d) Stage 4 (comprising both the currently approved area and proposed Stage 4 Extension the subject of the Application) land surface rehabilitation will be undertaken in line with the rehabilitation

commitments outlined in the Pit Rehabilitation and Maintenance Management Plan.

(e) Batters will be achieved at the completion of land surface rehabilitation, with the whole area (Stage 4) rehabilitated to pastures.

51. The Application was not advertised by the Respondent.

52. So far as BJC is aware, the Shire did not carry out any investigation or inspection of Lot 7, or obtain any independent expert advice, in relation to the Application.

53. The Application was not considered by the Council of the Respondent, and no report was prepared by the Respondent's planning officers relating to the Application. Instead, on 15 February 2022, the Shire's Manager Planning Services, acting under delegated authority, issued a decision refusing the Application (**Refusal**). A copy of the Refusal is at **Annexure SGA3 of the Statement of Stephen Allerding**.

54. The reasons given by the Shire's Manager Planning Services for the Refusal are as follows –

> *The proposal is contrary to the following provisions of Clause 67(2) of the Planning and Development (Local Planning Schemes) Regulations 2015:*
>
> *a. Does not protect and preserve the more important natural flora and fauna habitats and is therefore contrary to Clause 67(2)(a) and Clause 1.6.1(g) of the Shire of Harvey District Planning Scheme No. 1;*
>
> *b. Does not:*
>
> I. *protect, conserve, and enhance the natural environment;*
>
> II. *ensure the retention and protection of rural land for biodiversity protection;*
>
> III. *protect valued landscapes;*
>
> IV. *effectively manage environmental impacts;*
>
> V. *manage and improve environmental and landscape attributes;*

and is therefore contrary to Clause 67(2)(c) and the objectives and principles of State Planning Policies 2.0, 2.4 and 2.5;

c. *Does not protect significant areas of remnant vegetation or balance the environmental and visual objectives and is therefore contrary to Clauses 67(2) (fa) and the Shire of Harvey's endorsed Local Planning Strategy;*

d. *Will have a significant effect on the natural environment and is therefore contrary to Clause 67(2)(o);*

e. *Does not make provision for the preservation of vegetation and is therefore contrary to Clause 67(2)(p); and*

f. *Has the potential to create irreversible damage to the land quality by creating the potential for erosion and loss of soil and is therefore contrary to Clause 67(2)(q).*

55. BJC subsequently lodged an application with the State Administrative Tribunal under the *Planning and Development Act 2005 (WA)* (**PD Act**) to review the Refusal, and on the 21st of April 2022, the Acting Minister for Planning called in the that application pursuant to s246(6) of the PD Act on the basis that the proposal raises matters of State or Regional Importance.

ISSUES FOR CONSIDERATION BY THE MINISTER

56. The powers under section 246 and 247 of PD Act arise in relation to applications made to the State Administrative Tribunal to review a decision of a planning authority in respect of an application for development approval.

57. Section 246(6) of the PD Act provides that the Minister is to have regard to the submissions of the parties when considering an application in relation to which a direction has been made under section 246(2)(a), and may also have regard to any other submission.

58. Section 247(1) of the PD Act provides that in determining an application, the Minister is not limited to planning considerations, but may make the determination having to any other matter affecting the public interest.

59. It follows from these provisions that –

(a) planning consideration are relevant to the Minister's determination, in the same manner as such considerations are relevant to the decision of a planning authority or the State Administrative Tribunal; but

(b) the Minister is not limited to those planning considerations.

60. For the purposes of this matter, BJC provides submissions for consideration by the Minister addressing the following issues –

(a) an assessment of the Application against the applicable State and Local planning framework;

(b) an assessment of the Application by reference to the range of relevant planning considerations, other than the environmental issues referred to in the reasons for the Refusal;

(c) the environmental issues that are referred to in the reasons for the Refusal; and

(d) the availability of sand resources in the Peel – Bunbury Region.

Assessment against the applicable planning framework

61. Because the Refusal was made by the Shire's Manager Planning Services under delegated authority, no report was prepared assessing the Application against the planning framework relevant to the Application and there is little or no reference to the planning framework in the reasons given for the Refusal.

62. The **Statement of Stephen Allerding** sets out the planning framework applicable to the Application and contains a detailed assessment of the Application by reference to that planning framework.

Planning considerations

63. The reasons for the Refusal relate exclusively to environmental issues, primarily associated with the clearing of vegetation.

64. While the Application does require the clearing of a small area containing native vegetation and therefore does give rise to environmental issues (discussed separately below), the Application seeks approval for the expansion of the existing approved extractive industry operations on Lot 7, which gives rise to a range of relevant planning considerations. None of those other relevant planning considerations are referenced in the reasons for Refusal.

65. It presumed that all of the relevant planning considerations, apart from the environmental issues that are referenced in the reasons for Refusal, were assessed by the Respondent and were not considered to give rise to any basis for refusing the Application. Nevertheless, the **Statement of Stephen Allerding** contains a detailed assessment of the Application against all relevant planning considerations arising under the State and Local planning framework.

Environmental issues

66. As noted above, the reasons given for the Refusal relate exclusively to environmental issues, primarily associated with the clearing of native vegetation.

67. Before specifically addressing the assessment of those environmental issues raised by the Shire, the Applicant makes the following general submissions as to the proper role of environmental issues in this matter.

Proper role of environmental issues

68. Environmental issues, as a matter of general principle, have been acknowledged as being capable of being relevant planning considerations since the decision of ***Squarcini and Milano Pty Ltd v State Planning Commission*** (Unreported, Supreme Court of Western Australia, Scott J, Library BNo.960200, 17 April 1996). Clause 67(2)(o) of Schedule 2 of the *Planning and Development (Local Planning Schemes) Regulations 2015 (WA)* (**Deemed Provisions**) expressly refers to "*the likely effect of the development on the natural environment … and any means that proposed to protect or mitigate impacts on the natural environment*" as a matter to which a planning decision-maker is to have due regard, to the extent that it is relevant to the development under consideration. Also, as noted in the **Statement of Stephen Allerding**, provisions of SPP2.4, SPP2.5 and the *Greater Bunbury Region Scheme – Strategic Minerals and Basic Raw Materials Resource Policy* (**SMBRMP**) require that extractive industry operations are to be carried out in a manner that is "*environmentally acceptable*" or "*in accordance with acceptable environmental standards*" – and expressly state that the identification of strategic resources does not presume that extraction will be environmentally acceptable, or remove the requirement to meet environmental obligations.

69. However, various provisions of SPP2.4. SPP2.5 and the SMBRMP also emphasise the primary role of separate and specialist environmental decision-makers, and require that planning decision-makers have due regard to advice and decisions made by them.

70. The statutory regime in Western Australia includes a separate and independent environmental approvals process under the *Environmental Protection Act 1986 (WA)* (**EP Act**) and associated regulations. Of particular relevance to the present case is the specific process for environmental approval for the clearing of native vegetation contained in Part V Division 2 of the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (**Clearing Regulations**), by way of the issue of a Clearing Permit. That process includes –

(a) an application being made to the DWER, supported by any documentation or information required by the DWER – section 51E;

(b) consultation with public authorities – section 51E(4)(b);

(c) advertising for public comment – section 51E(4)(c);

(d) DWER being required to take into account any comments received during that consultation and advertising – section 51E(5);

(e) provisions as to the duration of a Clearing Permit – section 51G;

(f) provisions as to the types of conditions that can be imposed on a Clearing Permit – section 51H and 51I;

(g) a requirement for the DWER to have regard to "clearing principles" set out in Schedule 5 of the EP Act and also to have regard to any planning instrument (defined to include Statements of Planning Policy and local planning schemes) – section 51O; and

(h) the power for the DWER, of its own motion, to amend the conditions of a Clearing Permit following the grant of an approval – section 51K;

(i) the power for the DWER, of its own motion, to suspend or revoke a Clearing Permit – section 51L and 51M.

71. In the present case the clearing of native vegetation proposed by the Application, and which is necessary for the extension of the extractive industry operations the subject of the Application, will require a Clearing Permit under the EP Act.

72. Parliament has also made provision for a separate and broad right of appeal to the Minister for the Environment regarding decisions relating to Clearing Permits under section 101A of the EP Act. Importantly –

(a) an applicant for a Clearing Permit can appeal from a refusal or in relation to any conditions imposed on a Clearing Permit – section 101A(1);

(b) a holders of a Clearing Permit can appeal from any amendment, revocation or suspension of a Clearing Permit – section 101A(2);

(c) third parties, including a Local Government, can also appeal against a decision granting a permit, or against conditions or amendments to conditions – sections 101A(4) and 101A(3); and

(d) the procedure for such appeals is set out in section 106 and 107, with the ultimate decision made by the Minister for the Environment, which is final and without further appeal or review.

73. It is also relevant to note section 5 of the EP Act, which provides that "*Whenever a provision of this Act or of an approved policy is inconsistent with a provision contained in, or ratifies or approved by, any other written law, the provision of this Act or the approved policy, as the case requires, prevails*" – again emphasising the primacy of the approval processes under the EP Act.

74. It is appropriate to bear in mind that provisions such as clause 67(2)(o) of the Deemed Provisions and the provisions of SPS2.4, SPP2.5 and the SMBRMP referred to above, apply whether or not a proposal in question is also subject to separate and independent environmental approval. Where a proposal is not subject to separate and independent environmental approval, those provisions have a clear role to play and the development approval process quite properly ought to have regard to environmental issues as relevant considerations. But where a proposal is subject to separate and independent environmental approval, the State Administrative Tribunal has in several decisions acknowledged an appropriate separation between the two approval processes and recognised that the environmental approval process is inherently better-suited as the primary means to address environmental issues.

75. For example, in ***Point Grey Development Company Pty Ltd and Shire of Murray*** [2019] WASAT 106, at [146], the Tribunal noted that provisions such as the Clearing Permit approval regime set out in the EP Act and the Clearing Regulations do not fall within the jurisdiction of the Tribunal, and stated –

> *It is not the role of the Tribunal to go behind the determinations of environmental agencies when considering the merits of planning applications.*

76. In ***SITA Australia Pty Ltd and Wheatbelt Joint Development Assessment Panel*** [2016 WASAT 22, at [126]-[129], the Tribunal explored the issue in more detail, specifically in the context of the imposition of conditions of a development

approval relating to environmental issues that would also be the subject of separate permits or licences to be issued under the EP Act in relation to the proposed development. The Tribunal referred at length to the discussion of the same topic by the Victorian Civil and Administrative Tribunal in ***SITA Australia Pty Ltd v Greater Dandenong City Council*** [2007] VCAT 156, the essence of which had been applied and followed many times in that jurisdiction, and agreed with those views, including the following –

> *We consider that as a general principle, where specific aspects of the use or development of land are controlled by an EPA licence or works approval, conditions in a planning permit for the use or development should not attempt to control the same thing.*

One of the primary reasons for this approach, as explained by the VCAT and agreed by the Tribunal, is the ability for environmental approvals or permits to be amended or reviewed to address changes in standards or best-practice which, as noted above, is a feature of the Clearing Permit regime under the EP Act.

77. Although the Minister, under section 247(1) of the PD Act is not limited to planning considerations, the determination to be made by the Minister remains a determination of an application for development approval for a proposed development rather than an assessment and determination of an environmental approval in respect of that proposal. In circumstances where the environmental issues raised by a proposed development are, or will be, the subject of a specific environmental approval under a separate and specialist statutory process, the proper role of any development approval decision-maker is as set out in the decisions of the Tribunal referred to above.

Response to the environmental issues raised by the Refusal

78. Having regard to the above, the **Statement of Michael Lundstrom** provides information as to the specific environmental approvals being sought by BJC for the clearing of the native vegetation that forms part of the Application and is required for the purposes of the Stage 4 Extension.

79. Further, although it may be unnecessary to do so, the **Statement of Michael Lundstrom** also provides information by way of a general response to the environmental issues that are raised by the Refusal. In this regard, in the absence of any report in relation to the Application prepared by the Respondent's planning officers, the reasons for the Refusal provide only a bare description or explanation of these environmental issues and BJC is therefore only able to

respond on a relatively general basis. If further details of the reasons for Refusal are provided as part of the Respondent's submissions, BJC will provide more detailed information by way of responsive submissions.

Availability of sand resources in the south-west region

80. As set out above, section 247(1) of the PD Act provides that in determining an application, the Minister is not limited to planning considerations, but may also have regard to any other matter affecting the public interest.

81. The Stage 4 Extension, which was designed by the Southern Gateway Alliance, is proposed to directly supply the State Government's construction of the Bunbury Outer Ring Road (**BORR**), along with an adjoining sand resource located on Lot 21 for MRWA, which is the subject of separate, existing approvals.

82. The BORR is a 27km section of highway connecting Forrest Highway to Bussell Highway consisting of three stages. A plan and a fact sheet in relation to the BORR is included as **Annexure SGA3 to the Statement of Stephen Allerding**. The BORR is a State Government Proposal that has the following specific benefits:

(a) provides an integrated planning solution and defines an outer perimeter for development;

(b) provides improved high speed access to the port (largely separating port bound vehicles from local traffic movements);

(c) caters for population growth for Greater Bunbury from 80,000 to more than 200,000;

(d) separates the majority of high speed regional and freight traffic from local movements, resulting in improved road safety and efficiency benefits;

(e) provides future residential communities with Greater Bunbury improved access to existing services and built up areas by removing the majority of regional movements within Greater Bunbury and allowing better access to and across Forrest Highway;

(f) ties in further north of the previous alternatives on Forrest Highway, which improves safety at a number of intersections and improves overall efficiency; and

(g) does not preclude future rail options in and around Greater Bunbury, including future fast passenger rail.

83. The demand for sand to construct the BORR is significant, compared to the typical demand for sand in the Bunbury Geographe Region to accommodate general growth and development. It is estimated that up to 9 million tonnes of sand is required to complete Stages 1 and 2 of the BORR. This has meant that sand supplies that are normally reserved to accommodate the general demand for sand in the Bunbury Geographe Region have been diverted to accommodate sand supplies to construct the BORR.

84. Whilst the total sand supply within Lot 7 itself represents a relatively small volume from the total demand required for the BORR, approval of the Application will enable relocation of the existing approved batter which will enable access to additional sand resources on Lot 7. In addition, it will enable the MRWA to access the full extent of resources on adjoining Lot 21 through removal of the intervening batter between Lots 7 and 21.

85. The **Statement of Lindsay Stephens** provides a detailed analysis of current and proposal sand resources, concluding that the refusal of this proposal will contribute to leaving the BORR with a significant shortfall of sand resources, and would also leave no other currently available sand resources within the Shire of Harvey capable of supplying the future development needs of the Shire or for planned growth in the Greater Bunbury Region.

State Administrative Tribunal

Planning and Development Act 2005

Matter No. DR 63 of 2022

IN THE MATTER OF

Catalano Pty Ltd Applicant

and

The Shire of Harvey Respondent

STATEMENT OF MICHAEL LUNDSTROM

Date of Document	18 July 2022
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INTRODUCTION

1. My name is Michael Lundstrom of 21 Sellen Court, Leeming.

2. I am an environmental consultant and Director of Lundstrom Environmental Consultants Pty Ltd, which provides expert environmental consultancy services, primarily for the obtaining of environmental approvals for mining and extractive industries.

3. My formal qualifications include BSc Geology and Geography (Rhodes University), MSc Hydrogeology (Curtin University), Grad. Certificate in Environmental Man. (Murdoch University, and I have professional affiliation with the Environmental Consultants Association of WA.

4. I have practiced in this discipline in Australia for 25 years and, over the past 15 years have personally been involved in more than 150 environmental approval applications. More than half of these projects involved applications for permission to clear native vegetation. These projects have resulted in significant experience being achieved through the coordination of the required multi-disciplinary studies into flora and fauna and the submission of these to regulatory authorities for the purpose of obtaining environmental approval for development.

5. I have been retained by the Applicant, B & J Catalano Pty Ltd (**BJC**), for many years to provide environmental services and advice in relation to a number of the Applicant's operations, including those on the site which is the subject of this matter – Lot 7 Runnymede Road – and the adjoining properties at both Lot 7 and Lot 21. I have prepared or overseen a number of environmental reports and management plans relating to the operations on these properties and am very familiar with the environmental characteristics of the properties and the potential environmental impacts arising from extractive industry operations, including the clearing of native vegetation.

6. I have been requested by BJC to provide environmental comments in relation to the planning assessment of the proposal which is the subject of this matter.

7. I confirm that the comments contained in this Statement are a true and accurate record of my views and opinions in relation to this matter.

BACKGROUND

8. I refer to the background information relating to this matter contained in the submissions filed by Thomson Geer. Terms defined in those submissions are used in this Statement with the same meanings.

9. I also refer to the Statement of Stephen Allerding in relation to this matter. In this Statement, where indicated, I refer to documents that are provided as Annexures to Mr Allerding's Statement.

10. I was responsible for, or oversaw, the preparation of the environmental reports and management plans that supported the following approvals relating to the history of operations on Lot 7 set out in the submissions by Thomson Geer –

    (a) 2010 Clearing Permit;

    (b) 2011 EPBC Approval;

    (c) 2011 Development Approval and 2011 EIL;

    (d) 2013 Clearing Permit;

    (e) 2017 Development Approval and 2017 EIL;

    (f) 2020 Development Approval and 2021 EIL;

    (g) 2021 Clearing Permit; and

    (h) 2022 Development Approval and 2022 EIL.

11. I also refer to the description of the Application set out in the submissions by Thomson Geer. I was responsible for the preparation of the management plan and supporting reports, dated September 2021, which accompanied and supported the Application, and which are **Annexure SGA2 to the Statement of Stephen Allerding (2021 Supporting Documents**).

12. So far as I am aware, the Shire did not carry out any investigation or inspection of Lot 7, or obtain any independent expert advice in relation to the Application, prior to determining the Application.

13. As noted in the submissions by Thomson Geer, the Application was not considered by the Council of the Respondent, and no report was prepared by the Respondent's planning officers relating to the Application. Instead, on 15 February 2022, the Shire's Manager Planning Services, acting under delegated authority, issued the Refusal, which is at **Annexure SGA3 of the Statement of Stephen Allerding**.

RESPONSE TO REASONS FOR REFUSAL

14. The statement of the reasons that forms part of the Refusal is the only information received from the Respondent explaining the Refusal. It is apparent that the reasons for the Refusal relate almost exclusively to the clearing of the area of approximately 0.88 hectares of native vegetation within the 1.17 hectare area of the Review Site which has been identified for the purposes of carrying out the Stage 4 Extension.

15. No other environmental issues are expressly referenced in the reasons for the Refusal, but to the extent that these matters are relevant, the 2021 Supporting Documents includes information relating to visual impact, potential impacts on water resources and acid sulphate soils, as well as noise, dust and dieback management. Attached to the 2021 Supporting Documents as appendices are the following documents –

    (a) Pit Rehabilitation and Maintenance Management Plan;

    (b) Weed Management Plan;

    (c) Water Management Plan;

    (d) Dust Management Plan;

    (e) Dieback Management Plan.

16. The information contained in the 2021 Supporting Documents, and the contents of the various Management Plans referred to above, is commensurate with the similar information and content of equivalent Management Plans that was submitted to and approved by the Respondent as part of the 2011 Development Approval and 2011 EIL, the 2017 Development Approval and 2017 EIL, the 2020 Development Approval and 2021 EIL, and the 2022 Development Approval and 2022 EIL, all relating to different stages of the extractive industry operations by the Applicant on Lot 7.

17. As noted above, so far as I am aware, the Shire did not carry out any investigation or inspection of Lot 7, or obtain any independent expert advice in relation to the Application, prior to

determining the Application and issuing the Refusal.

18. It is not possible from the reasons that have been given as part of the Refusal to discern exactly what the Respondent's concerns are in relation to the proposed clearing of the native vegetation for the Stage 4 Extension. As such, the principal purpose of this Statement is to provide general comment on the environmental values associated with the 1.2ha footprint of the Review Site which is the subject of the Application, particularly with respect to the native vegetation contained within an area of 0.88ha of that footprint, which is to be cleared for the purposes of the Stage 4 Extension.

19. As an Environmental Scientist, it is my understanding that the Environmental Impact Assessment process involves a full cycle of data collection, evaluation, identification of environmental risk, identification of risk mitigation strategies and appropriate management so that acceptable environmental and developmental outcomes can be achieved.

20. As is apparent from all applications for development approval made by BJC, there is a built-in acceptance of the need to achieve balanced environmental outcomes. These applications take account strategies to deal with a broad range of environmental actions. These actions include land reshaping, native vegetation planting and management, ground and surface water management together with mitigation of noise and dust emissions. As noted above, the 2021 Supporting Documents included evaluation and management strategies to be implemented in respect of all of these environmental aspects.

21. With specific reference to the clearing of native vegetation, Environmental Risks are assessed at the initial stages of the project, by the Applicant as well as by State and Federal Authorities. Based on the outcome of these assessments, various mitigation measures may be applied. These mitigation measures normally incorporate the replanting of cleared areas with vegetation similar to that which existed prior to clearing, together with ongoing management to ensure survival in the long term. Also used as a method of environmental impact minimisation is offsets, such as the identification of similar vegetation which can be preserved by the placement of restrictive covenants. It is my understanding that these measures will be implemented by BJC after a process of interaction with the relevant authorities.

22. In the present case, both background and detailed environmental studies have been commissioned by BJC with the purpose of having all the necessary data to enable sufficient input into the evaluation processes identified in the *Environmental Protection Act 1986 (WA)* and the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*. The studies are

as follows, with the areas of each of the studies shown on Figure 1 below for ease of comparison in relation to the Review Site –

(a) Flora and Vegetation Survey Report (v0.2) – Lot 7 Runnymede Road, Wellesley dated March 2019, prepared by Lundstrom Environmental Consultants Pty Ltd in respect of a Spring survey carried out in September 2018 (**2018 Flora Survey**);

The 2018 Flora Survey is referred to in the 2021 Supporting Documents, and a copy is provided as **Annexure ML-1 to this Statement.**

As shown in Figure 1 the 2018 Flora Survey covered most of the Review Site, and an area largely to the east and south of the Review Site, comprising a total area of 16 hectares. The main findings, which are referred to in the 2021 Supporting Documents, were that the vegetation is classified as Banksia Woodland TEC in Excellent condition except in the north and western edges (including the Review Site) where condition declines significantly.

(b) Fauna Assessment – Lot 7 Runnymede Road, Wellesley dated November 2021, prepared by Greg Harewood and Ecoedge Pty Ltd (**2021 Fauna Survey**).

A copy of the 2021 Fauna Survey is provided as **Annexure ML-2 to this Statement**.

The 2021 Fauna Survey was carried out subsequent to the lodging of the Application, to supplement the 2018 Flora Survey for the purposes of an application to the DWER for a Clearing Permit in relation to the clearing of the 0.88 hectares of native vegetation within the Review Site.

As shown in Figure 1 the 2021 Fauna Survey covered an area of 9.9ha including the Review Site. The survey area as a whole was found to contain 92 trees with DBH>50cm and two trees with hollows of suitable size for black cockatoo nesting (not used). Approximately 17 trees have small to medium hollows which are not suitable for black cockatoo use.

(c) Reconnaissance Vegetation Survey – Lot 7 Runnymede Road, Wellesley dated July 2022, prepared by Lundstrom Environmental Consultants Pty Ltd (**2022 Survey**).

A copy of the 2022 Survey is provided as **Annexure ML-3 to this Statement**.

The 2022 Survey was specifically undertaken to provide more flora and fauna detail within the 1.2ha area of the Review Site. This report indicates that the majority of the proposed clearing area is either Degraded or Completely Degraded with approximately 15% of the area considered to be in a Good condition. As shown in Figure 2 below, the fauna survey which covers this area shows that there is one tree with a hollow suitable for black cockatoo nesting (not used), two trees with small to medium hollows, and a total of 8 other trees with a DBH>50cm.

PENDING APPLICATIONS FOR APPROVAL IN RELATION TO THE CLEARING REQUIRED FOR THE APPLICATION

23. The clearing of the 0.88 hectares of native vegetation within the Review Site for the purposes of the Stage 4 Extension will require a Clearing Permit from the DWER under the EP Act. The clearing will also require confirmation that it is not a controlled action for the purposes of the EPBC Act or, if the clearing is determined to be a controlled action, it will also require approval under the EPBC Act.

24. As was the case for the approvals relating to Stage 4 of the extractive industry operations on Lot 7 (the subject of the 2020 Development Approval and 2021 EIL, followed by the 2021 Clearing Permit), for the Stage 4 Extension, BJC submitted the application for development approval first, to be followed by the application for a Clearing Permit and, if required, approval under the EPBC Act.

25. In December 2021, BJC made an application to the DWER to amend the existing and current 2021 Clearing Permit (CPS8916/1) to include the additional area of 0.88 hectares adjacent to the area already approved for clearing by the 2021 Clearing Permit. However, in January 2022, following discussions with the DWER, that application was withdrawn, in order to be lodged as a separate, fresh application for a Clearing Permit.

26. In May 2022, BJC lodged a referral to the DAWE under the EPBC Act in respect of the Stage 4 Extension, including the clearing of the 0.88 hectares (which was recalculated for the purposes of the referral and determined to be 0.84 hectares) of native vegetation within the Review Site (**2022 EPBC Referral**). Documents submitted for the purposes of the 2022 EPBC Referral include –

    (a) referral application, dated 2 May 2022, a copy of which is provided as **Annexure ML-4 to this Statement**;

(b) the 2021 Supporting Documents, a copy of which is provided as **Annexure SGA2 to the Statement of Stephen Allerding**;

(c) the 2018 Flora Survey, a copy of which is provided as **Annexure ML-1 to this Statement**; and

(d) the 2022 Survey, a copy of which is provided as **Annexure ML-2 to this Statement**.

27. The 2022 EPBC Referral is expected to confirm that the Stage 4 Extension, including the clearing of native vegetation required as part of this, is not a controlled action for the purposes of the EPBC Act. The 2022 EPBC Referral has been advertised and I have been informed that a decision is expected to be made within a few weeks.

28. On 7 July 2022 an application was made to the DWER under the EP Act for a Clearing Permit in respect of the clearing of the native vegetation within the Review Site, for the purposes of the Stage 4 Extension (**2022 Clearing Permit Application**). Documents submitted for the purposes of the 2022 Clearing Permit Application include –

(a) covering letter, completed application form and aerial photograph (Figure 1) showing mapping of proposed clearing area etc, a copy of which is provided as **Annexure ML-5 to this Statement**;

(e) copies of the 2018 Flora Survey (which is **Annexure ML-1 to this Statement**) and the 2021 Fauna Survey (which is **Annexure ML-2 to this Statement**), which had previously been provided to the DWER; and

(f) the 2022 Survey, a copy of which is provided as **Annexure ML-3 to this Statement**.

CONCLUSIONS

29. The 2021 Supporting Documents, together with the more detailed content of the 2018 Flora Survey, the 2021 Fauna Survey and the 2022 Survey demonstrate that the Stage 4 Extension, including the clearing of the area of native vegetation within the Review Site which is required in order to carry out the extractive industry operations –

(a) can and will be carried out in an environmentally acceptable manner, and in accordance with acceptable environmental standards;

(b) can and will protect and preserve the natural environment and important natural flora and fauna habitats;

(c) will not have an adverse impact on biodiversity protection;

(d) can and will effectively manage any environmental impacts and attributes;

(e) makes appropriate provision for the preservation of native vegetation; and

(f) will not have a significant impact on the natural environment.

30. The outcomes of the 2022 EPBC Referral and the 2022 Clearing Permit Application will determine – and are the appropriate statutory approval processes to determine – what, if any, further specific measures may be required for the approval of the clearing of the native vegetation.



Michael Lundstrom

Date: 18 July 2022

Flora and Vegetation Survey Report (v0.2)

LOT 7 RUNNYMEDE ROAD, WELLESLEY



REPORT PREPARED BY
LUNDSTROM ENVIRONMENTAL CONSULTANTS PTY LTD

Lot 7 Runnymede Rd, Wellesley

Flora and Vegetation Survey Report

Version Reference: 0.2

Date: 19 March 2019

Prepared by Lundstrom Environmental Consultants Pty Ltd for B&J Catalano Pty Ltd

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Front cover image: *Eucalyptus marginata, Agonis flexuosa* and *Banksia attenuata* over *Hibbertia hypericoides, Melaleuca thymoides* and *Dasypogon bromeliifolius*

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GLOSSARY

BAM Act	*Biosecurity and Agriculture Management Act 2007* (Western Australian Government)
BC Act	*Biodiversity Conservation Act 2016* (Western Australian Government)
BoM	Bureau of Meteorology
DAFWA	Department of Agriculture and Food Western Australia – superseded, now DPIRD (Western Australian Government)
DBCA	Department of Biodiversity, Conservation and Attractions (Western Australian Government)
DEC	Department of Environment and Conservation – superseded, now DBCA (Western Australian Government)
DEE	Department of the Environment and Energy (Australian Government)
DMIRS	Department of Mines, Industry Regulation and Safety (Western Australian Government)
DoW	Department of Water - superseded, now DWER (Western Australian Government)
DPIRD	Department of Primary Industries and Regional Development (Western Australian Government)
DRF	Declared Rare Flora
DWER	Department of Water and Environmental Regulation (Western Australian Government)
EPA	Environmental Protection Authority (Western Australian Government)
EP Act	*Environmental Protection Act 1986* (Western Australian Government)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Australian Government)
ESA	Environmentally Sensitive Area
LEC	Lundstrom Environmental Consultants
MNES	Matters of National Environmental Significance
PEC	Priority Ecological Community
TEC	Threatened Ecological Community
TPF	Threatened and Priority Flora
WALGA	Western Australian Local Government Association
WC Act	*Wildlife Conservation Act 1950* (Western Australian Government) superseded, now BC Act (Western Australian Government)
WONS	Weeds of National Significance

EXECUTIVE SUMMARY

B&J Catalano Pty Ltd (Catalano) is proposing to extract sand at Lot 7 Runnymede Road, Wellesley. Lundstrom Environmental Consultants (LEC) was commissioned by Catalano to undertake a detailed flora and vegetation assessment of the proposal area.

Lot 7 Runnymede Rd, an 80.2ha property currently zoned as 'General Farming', is located approximately 130km south of Perth and 24km north of Bunbury, within the Shire of Harvey, Western Australia (WA).

A single-phase detailed (formally level 2) flora and vegetation assessment was carried out by a team of botanists, taxonomists and field technicians between the 18th and 20th of September 2018. A targeted search for threatened and priority flora, such as *Caladenia speciosa*, was also conducted during this time.

The assessments for flora and vegetation (including Banksia woodland TEC) were recorded and reported in accordance with relevant technical guidelines and standards. Key findings of the assessments within the study area are as follows:

The key findings, conclusions and recommendations arising from the flora and vegetation assessment within the Survey Area are as follows:

- A total of 81 taxa from 63 genera and 34 families were identified in the Survey Area.
- Of the 81 taxa recorded, nine taxa were introduced flora (weeds) and 72 were native species (88.9% of taxa recorded).
- The commonly occurring families were Fabaceae and Myrtaceae (with 5 taxa each), Orchidaceae (7 taxa), as well as Asparagaceae and Asteraceae (with 8 taxa each).
- No Threatened flora under the BC Act or under the EPBC Act were recorded.
- Three Priority flora as listed by DBCA (2018a) were recorded in the Survey Area: *Millotia tenuifolia* ?var. *laevis* (P2); *Lasiopetalum* ?*membranaceum* (P3); and *Acacia semitrullata* (P4). The *Millotia* and *Lasiopetalum* species could not be identified with certainty, as they were either sterile or the flowering material was immature, but the identifications provided are the most likely outcome.
- No weed species recorded are listed as Declared Pests under the BAM Act or WONS.
- One vegetation type, mainly in 'Excellent' condition, was described and mapped within the Survey Area: *Banksia attenuata - Eucalyptus marginata* open woodland over a *Hibbertia hypericoides – Melaleuca thymoides* low open shrubland over a herbland of *Dasypogon bromeliifolius.*
- The vegetation of the Survey Area was consistent with FCT 21a, which although not listed as a PEC under WA State Policy (DBCA 2019), is consistent with the Commonwealth EPBC Act listed Banksia Woodlands TEC.

1 INTRODUCTION

1.1 BACKGROUND

B&J Catalano Pty Ltd (Catalano) is proposing to extract sand at Lot 7 Runnymede Road, Wellesley. Lundstrom Environmental Consultants (LEC) was commissioned by Catalano to undertake a detailed flora and vegetation assessment of the proposal area.

1.1.1 Location, Ownership and Tenure

Lot 7 Runnymede Road is located approximately 130km south of Perth within the Shire of Harvey (Figure 1), Western Australia (WA). The property is situated 2.5km east of Forrest Highway, 6km east of the coast at Binningup and approximately 24km north of Bunbury.

The 80.2ha property is owned by B, C & S Catalano and is currently zoned as 'General Farming' under the Shire of Harvey Town Planning Scheme No. 1.

The cleared western portion of the property was most recently used for sand extraction. The majority of properties surrounding Lot 7 are used for grazing, however Lot 4 (on the southern boundary of Lot 7) is currently operated by B&J Catalano for sand extraction.

1.1.2 Survey Area

The eastern portion of Lot 7 contains a continuous patch of remnant vegetation (approximately 50ha). The 16ha Survey Area is located on the western edge of this remnant vegetation patch, immediately adjacent to the partially cleared portion of Lot 7 (Figure 2).

Remnant vegetation is located directly north, west and south of the Survey Area, and the previous extraction area (currently under rehabilitation) lies to the west.

1.2 OBJECTIVE AND SCOPE

The objective of this report was to describe the vegetation and flora, provide information on the occurrence of conservation significant flora and to map and assess the environmental values of the vegetation within the Survey Area at Lot 7 Runnymede Road, Wellesley.

The scope of work included the following tasks:

- Review relevant literature and data for species and communities listed within Commonwealth and State Legislations and departmental databases.
- Conduct field surveys, including the use of quadrats and targeted searches, at a suitable time to locate species and vegetation identified through literature reviews and database searches.
- Identify and map all potential occurrences of conservation significant species and communities within the Survey Area.
- Delineate and characterise the flora and range of vegetation types in the Survey Area; and
- Assess and map the vegetation condition in the Survey Area

1.3 GUIDANCE AND LEGISLATION

1.3.1 Survey Guidance

The Environmental Protection Authority (EPA) provides guidance on flora and vegetation surveys to ensure that adequate data are obtained to an appropriate standard: *Technical Guidance - Flora and Vegetation surveys for Environmental Impact Assessment* (EPA 2016).

The guidance document provides advice on:

- survey preparation and desktop study;
- determining the type of survey required;
- sampling techniques and survey design; and
- data analysis and reporting.

1.3.2 Flora and Vegetation Protection

Flora and vegetation are protected by a range of legislative and non-legislative instruments. A short description of these is provided in Table 1. Definitions for categories of conservation significant species and ecological communities are provided in Section 2.3 and Section 2.4 respectively.

Table 1. Flora and vegetation protection - Legislation and Guidance

Legislation and Guidance	Description
COMMONWEALTH	
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	The EPBC Act aims to protect Matters of National Environmental Significance (MNES), which includes Threatened Ecological Communities (TECs) and Threatened Species (DEE 2018a, DEE 2018d). Under the EPBC Act, the Commonwealth Department of the Environment and Energy (DEE) lists threatened species and communities in categories determined by criteria set out in the Act (www.environment.gov.au/epbc/index.html). Projects likely to cause a significant impact on MNES should be referred to the DEE for assessment under the EPBC Act.
Weeds of National Significance (WONS)	The Australian Government along with the State and Territory governments has endorsed 32 WONS, each of which has a national strategy. WONS must be reported and are regarded the worst weeds in Australia because of their invasiveness, potential for spread, and economic and environmental impacts.
WA STATE	
Biodiversity Conservation Act 2016 (BC Act)	The BC Act came into effect in January 2019 to provide for the conservation and protection of biodiversity and biodiversity components in WA; replacing the *Wildlife Conservation Act 1950* (WC Act). The Department of Biodiversity, Conservation and Attractions (DBCA) lists flora and ecological communities under the provisions of the BC Act as protected according to their need for protection (DBCA 2018a). Flora may be Declared Rare when populations are geographically restricted or are threatened by local processes. The BC Act also provides

Legislation and Guidance	Description
	for the statutory listing of WA Threatened Ecological Communities (TECs) by the Minister for Environment (DBCAb). Under the BC Act, by Notice in the WA Government Gazette of 9 October 1987 (WC Act), all native flora (spermatophytes, pteridophytes, bryophytes and thallophytes) are also protected throughout the State.
Environmental Protection Act 1986 (EP Act)	Threatened Flora and TECs are given special consideration in environmental impact assessments and have special status as Environmentally Sensitive Areas (ESAs) under the EP Act and the Environmental Protection (Clearing of Native Vegetation) Regulations 2004. Exemptions for a clearing permit do not apply in an ESA. Refer to Section 2.3.2 for further information on Threatened Flora and Section 2.4.4. for more information on TECs.
Biosecurity and Agriculture Management Act 2007 (BAM Act)	Pests may be 'Declared' by the Minister for Agriculture under the BAM Act. The Western Australian Organism List (WAOL) provides the status of organisms which have been categorised under BAM Act. A declaration may apply to the whole State, to districts, individual properties or even to single paddocks. If a plant is 'Declared', landholders are obliged to control that plant on their properties (DAFWA 2015). Refer to Section 2.3.3 for further information on Declared Pest Plants.
DBCA Priority Lists	The DBCA lists 'Priority' flora that have not been assigned statutory protection as Declared Rare or 'Scheduled' under the BC Act (DBCA 2018a). Flora assessed as Priority 1-3 are in urgent need of further survey. Priority 4 flora require monitoring every 5-10 years and Priority 5 flora are subject to a specific conservation programme (Section 2.4). The DBCA also maintains a list of Priority Ecological Communities (PECs) which identifies ecologically valuable communities that need further investigation before possible nomination for TEC status (DBCA 2019). Refer to Section 2.3.2 for further information on Priority Flora and Section 2.4.4. for more information on PECs.
Informal Recognition of Flora	Certain populations or communities of flora may be of local significance or interest because of their patterns of distribution and abundance (i.e. range extensions or unusual species composition). Many species are also in decline because of threatening processes (land clearing, grazing, changed fire regimes), and relict populations of such species assume local importance for the DBCA.

2 METHODS

2.1 DESKTOP ASSESSMENT

The purpose of the desktop assessment is to gather contextual information and to identify potential flora and vegetation prior to the field survey.

2.1.1 Physical environment

A desktop assessment was undertaken of the physical factors of the region and the local area, including climate; geology; land systems; soils; hydrology and hydrogeology. Unusual or restricted geological features (e.g. outcropping, distinctive soil types or hydrological features) were identified and targeted during the survey as they may support significant/unique flora and vegetation to the area.

Database searches included GeoVIEW (Geology 1:50,000, DMIRS 2018), Bureau of Meteorology (Climate Data Online, BoM 2019), Acid Sulphate Soil Risk Map (DWER-055), Soil Landscape Mapping (DPIRD-027), Soil Landscape Mapping - Systems (DPIRD-064), as well as aerial photography and satellite imagery.

2.1.2 Flora

An evaluation of flora known within the area was undertaken to help develop an understanding of dominant flora species, typical families and potential diversity. The desktop flora assessment output consisted of an inventory of known and/or expected flora species within the Survey Area based on the following database searches:

- EPBC Act listed Threatened Flora (DEE 2018a)
- DBCA's threatened and priority flora databases (DBCA 2018c)
- NatureMap custom reports of recorded species in the locality (DBCA 2018d)
- FloraBase (Western Australian Herbarium 2018)
- Survey reports or references in the region or locality.

2.1.3 Vegetation

An evaluation of known and likely vegetation within the Survey Area was based on an assessment of regional and local mapping and databases, including:

- Statewide Vegetation Mapping (Beard 1968-1981, Beard 1972-1980 and Beard *et al.* 2005)
- Regional vegetation mapping (Heddle *et al*. 1980)
- EPBC Act List of Threatened Ecological Communities (Protected Matters Search Tool, DEE 2018b)
- DBCA threatened and priority ecological communities' databases (DBCA 2018e)
- Recovery Plans and other reports/documents containing information on the preferred habitats and distributions of TECs of relevance to the Study Area (i.e. DEE 2016 – a guide on Banksia Woodlands of the Swan Coastal Plain)
- Survey reports or references in the region or locality.
- General environmental databases to identify environmental values of the area and further site characteristics:
    - GeoVIEW to identified geology types for the Survey Area (DMIRS 2018)
    - National Map (Commonwealth of Australia 2018)

- Environmental Planning Tool (WALGA 2018)
- Locate (via SLIP and Landgate) (Government of Western Australia 2018a)

2.2 FIELD ASSESSMENT

EPA (2016) describes three survey types for Environmental Impact Assessment:

- *Reconnaissance Survey:* A reconnaissance survey provides context and gathers broad information about a Survey Area. Generally, a reconnaissance survey is required where flora and vegetation values are well defined, the area is not likely to support significant flora or vegetation and the scale and nature of potential impacts are not likely to be significant.
- *Targeted Survey:* A targeted survey gathers comprehensive information on significant flora and/or vegetation. A targeted survey aims to determine the size and extent of all significant flora populations or vegetation in the Survey Area and to place any impacts into context.
- *Detailed Survey:* A detailed survey provides adequate local and regional context relative to the values of the flora and vegetation within the Survey Area. A detailed survey requires comprehensive survey design that considers optimal survey timing, disturbance events and supplementary survey requirements. Multiple sampling events may also be necessary.

The Detailed Survey was considered the most appropriate survey type this assessment, as the Survey Area supports a relatively high biodiversity and it may contain significant flora or vegetation. The Detailed Survey includes a series of sampling techniques, as described in Sections 2.2.2 – 2.2.5 below.

2.2.1 Timing and expertise

Field surveys were undertaken between the 18th and the 20th of September 2018. This period was selected to coincide with the optimum flowering period for many of the species of the region, in particular the targeted conservation significant orchids such as *Caladenia speciosa*.

Field assessments were undertaken by a team comprising of botanists, taxonomists and field technicians, all with botanical survey experience across WA. A summary of the team is provided in Table 2.

Table 2. Experience and Competence

Shane Chalwell (Plant Ecology)	
Qualifications	PhD (Plant Ecology)
Scientific Licence	SL012223
Experience	Shane Chalwell is a highly qualified and skilled consulting botanist with extensive experience in vegetation surveys and monitoring throughout Western Australia. His expertise in plant community ecology includes the design of broad and fine scale vegetation mapping, vegetation health and rehabilitation monitoring programs, wetland condition assessments, and searches for Threatened and Priority flora. Shane was team leader during the field assessment, coordinated field surveys, and undertook data analysis.
Frank Obbens (Bushtech Consultancy)	
Qualifications	BSc Honours (1ST) (Biology/Plant Science)
Scientific Licence	SL012278
Experience	Frank, a research associate with the WA Herbarium, has provided botanical services for over 20 years, including botanical identification, taxonomic investigation services and field support. He has been involved with many detailed flora and vegetation surveys, threatened and priority flora searches, vegetation mapping surveys, rehabilitation monitoring as well as flora identifications and specific

	taxonomic investigations. Frank is also an expert on the genus *Calandrinia* and has published several papers. Frank was a field botanist during surveys and undertook plant identification of the collected plant specimens.
Sharna Yates (Thomson)	
Qualifications	BSc (Botany/Plant Science)
Scientific Licence	SLO12477
Experience	Sharnya Yates (Thomson) is a specialised plant taxonomist and field botanist with over15 years' experience in the field and an extensive knowledge WA's vascular plants. She has undertaken a wide variety of ecology related projects such as detailed flora surveys, targeted threatened, rare and priority flora surveys, base line flora and vegetation assessments, vegetation monitoring, plant taxonomy and arid region ecology projects. Sharnya was a field botanist during surveys and undertook plant identification of the collected plant specimens.
Daniel Marsh	
Qualification	BSc (Biological Science)
Scientific Licence	SL012308
Experience	Daniel is an experienced ecologist and field botanist working in all aspects of flora and vegetation surveys throughout WA. Daniel was a field botanist during surveys.
Michelle Carey (Lundstrom Environmental)	
Qualifications	PhD (Environmental Science)
Scientific Licence	SLO12385
Experience	Michelle has over 20 years' experience in environmental monitoring and investigations across WA. She has experience with field assessments, project planning, data analysis and reporting. Michelle assisted Shane with field logistics, provided field support during targeted searches and prepared the survey report.

2.2.2 Quadrats

Quadrat sampling is the most appropriate technique for determining and describing vegetation during detailed vegetation surveys. Eight 10m x 10m quadrats were installed across one single vegetation type, based on desktop assessment and field reconnaissance. A full description of each quadrat is presented in Appendix 1. Information collected in each quadrat included:

- site code;
- location, with GPS coordinates (estimate of their accuracy) and datum;
- size and shape of quadrat;
- photograph/s from north-west corner;
- landform and soil description;
- dominant growth form, height, cover and species for the three traditional strata (upper, mid and ground) compatible with NVIS Level V (NVIS Technical Working Group, 2017);
- any other location information that might be useful in vegetation classification including slope, aspect, litter, fire history, vegetation/landform/soil correlations;
- assessment of vegetation condition and description of disturbances;

- a comprehensive species list, including weeds; and
- quadrat marking method.

2.2.3 Targeted search

A search was undertaken to target significant flora and vegetation with the potential to occur in the Survey Area, based on findings from the desktop study.

A transect width of 10m (equating to a 5m search area either side of the walked transect) was traversed throughout the entire Survey Area.

The following data was recorded along the traverse:

- a descriptive location;
- GPS coordinates and datum;
- targeted species or community data per vegetation type boundary/potential quadrat location (dependant on purpose of traverse);
- landform; aspect;
- soils;
- vegetation condition;
- period since the last fire;
- description of disturbances; and
- any apparent correlation between vegetation and landform features.

2.2.4 Opportunistic sampling

Flora not recorded in quadrats were recorded and collected opportunistically as the Survey Area was traversed. When a potentially unrecorded species was found, the location was noted using a GPS waypoint and a reference photograph was recorded. The general site conditions were also noted (i.e. soil type, associated flora, cover, distribution and other general notes).

2.2.5 Vegetation condition rating

The condition of vegetation was assessed and mapped across the Survey Area using the vegetation condition scales outlined in Keighery (1994). A description of the condition scale is summarised in Table 3.

Table 3. Vegetation Condition Scale (adapted from Keighery 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance or damage caused by human activities since European settlement
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species. Damage to trees caused by fire, the presence of non-aggressive weeds and occasional vehicle tracks.
Very Good	Vegetation structure altered, obvious signs of disturbance. Disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it.

Condition	Description
	Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds at high density, partial clearing, dieback and grazing.
Completely Degraded	The structure of the vegetation is no longer intact, and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees and shrubs.

2.3 FLORA ANALYSIS

2.3.1 Identification of specimens

Identification of specimens was undertaken using taxonomic keys, comparison with herbarium reference specimens and consultation with taxonomic experts in the field and via external contacts (WA State Herbarium).

2.3.2 Conservation significant flora

Flora within WA that is under threat may be classed as either Threatened Flora or Priority Flora. Where flora has been gazetted as Threatened Flora under the BC Act, it is an offence "to take" such flora without the written consent of the Minister. The BC Act states that "to take" flora includes to gather, pluck, cut, pull up, destroy, dig up, remove or injure the flora or to cause or permit the same to be done by any means.

Priority Flora constitute species considered to be under threat, but for which there is insufficient information available concerning their distribution and/or populations to make a proper evaluation of their conservation status. Such species are considered to potentially be under threat, but do not have legislative protection afforded under the BC Act. The DBCA categorises Priority Flora according to their conservation priority using four categories as described in. Table 4 sets out definitions of both Threatened and Priority Flora.

At the Commonwealth level, under the EPBC Act, Threatened Flora can also be listed as Vulnerable, Endangered, Critically Endangered, Conservation Dependent, Extinct in the Wild, or Extinct by the Minister for the Environment. Under the EPBC Act, a person must not take an action that has or will have a significant impact on a listed threatened species without approval from the Commonwealth Minister for the Environment.

Table 4. Conservation Codes for WA Flora (DBCA 2018a)

Conservation Code	Description and rating
THREATENED FLORA	
T (Threatened Flora)	Specially protected under the BC Act, listed under Schedules 1, 2 and 3 of the Wildlife Conservation (Rare Flora) Notice (which may also be referred to as Declared Rare Flora). Taxa which have been adequately searched for and are deemed to be, in the wild, either rare, at risk of extinction, or otherwise in need of special protection, and have been gazetted as such

	The assessment of the conservation status of these species is based on their national extent.	
	CR - Schedule 1	taxa that are extant and considered likely to become extinct or rare, as critically endangered flora, and therefore in need of special protection.
	EN -·Schedule 2	taxa that are extant and considered likely to become extinct or rare, as endangered flora, and therefore in need of special protection.
	VU - Schedule 3	taxa that are extant and considered likely to become extinct or rare, as vulnerable flora, and therefore in need of special protection.
EX (Presumed Extinct Flora)	Specially protected under the BC Act, listed under Schedule 4 of the Wildlife Conservation (Rare Flora) Notice (which may also be referred to as Declared Rare Flora). Taxa which have been adequately searched for and there is no reasonable doubt that the last individual has died and have been gazetted as such. Threatened flora are ranked according to their level of threat using IUCN Red List categories and criteria. For example, *Acacia splendens* is specially protected as Declared Rare Flora under the BC Act and is a threatened species with a ranking of Critically Endangered	
	EX - Schedule 4	taxa that are presumed to be extinct in the wild and therefore in need of special protection.
PRIORITY FLORA		
P1 (Priority One): Poorly known species	Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations, but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.	
P2 (Priority Two): Poorly known species	Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations, but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.	
P3 (Priority Three): Poorly known species	Species that are known from several locations, and the species do not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations, but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.	
P4 (Priority Four): Rare, Near Threatened and other species in need of monitoring	(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.	

	(b) Near Threatened. Species that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.
	(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

2.3.3 Declared (Plant) Pest Organisms

Section 22 of the BAM Act makes provision for a plant taxon to be listed as a declared pest organism in respect to parts of, or the entire State. According to the BAM Act, a declared pest is defined as a prohibited organism (Section 12), or an organism for which a declaration under section 22 (2) of the Act is in force.

Under section 26 (1) of the BAM Act, a person who finds a declared plant pest must report, in accordance with subsection (2), the presence or suspected presence of the declared pest to the Director General or an inspector of the DPIRD.

Under the Biosecurity and Agriculture Management Regulations (2013), declared plant pests are placed in one of three control categories, C1 (exclusion), C2 (eradication) or C3 (management), which determines the measures of control which apply to the declared pest (Appendix 2). According to Section 30 (3) of the BAM Act, the owner or occupier of land, or a person who is conducting an activity on the land, must take the prescribed control measures to control the declared pest if it is present on the land.

2.4 VEGETATION ANALYSIS

2.4.1 Vegetation description

The National Vegetation Information System (NVIS) (NVIS Technical Working Group, 2017) is the nationally adopted classification system used for vegetation description for EIA in Western Australia.

The description of each vegetation unit represents the entire area and the level of variability within and between vegetation units has been assessed and described.

Broadly, the vegetation classification uses vegetation structure and dominant species to describe differences between vegetation units. Structural vegetation classification provides information on height of strata, foliar cover and dominant species.

Local scale vegetation units have been described at NVIS Level V. The term “Vegetation Type” should is used to describe local scale vegetation units and “Vegetation Association” and “Vegetation Complex” are used to describe vegetation at the state and regional scale respectively. The hierarchy and scale of vegetation classification systems as described in this report is:

- Vegetation Association (NVIS III)- Structural form and dominant species (1:1,000,000 -to 250,000)
- Vegetation Complex (NVIS IV)– structural and floristic description linked to geomorphology (1:250 000 to 1:100 000)
- Vegetation Type (NVIS V)- Floristic definition by strata with structural detail. Often represented with a code and floristic description (1:100 000 to 1:10 000).

2.4.2 Floristic community type analysis

The remnant vegetation of the southern Swan Coastal Plain was surveyed by Gibson *et al.* (1994) to provide an understanding of the major floristic gradients across the region. The major plant communities (or Floristic Community Types, FCTs) were defined by classifying the data according to the similarities in species composition between plots. When determining the FCT of a new record, a floristic analysis of species composition provides the most robust method that is consistent with the original classification.

Presently, a single consistent method for the determination of FCTs for vegetation data in the Swan Coastal Plain is not available. Therefore, it is preferable to use multiple methods and compare the output for the most likely result. All analyses described below were undertaken using 'R' environmental software, specifically its packages 'Cluster', 'Vegclust' and 'Vegan' (https://www.r-project.org/).

2.4.2.1 Hierarchical Clustering

Hierarchical agglomerative clustering is the usual first stage in classifying vegetation data into community types. This involves calculating the similarity (or more often, the dissimilarity) between plots within the dataset and then sequentially fusing the plots into groups according to their similarity. This type of method was used in the analysis of the original Swan Coastal Plain dataset (Gibson *et al.* 1994), but its use as the basis for assigning new plot data to the regional classification has some drawbacks.

Firstly, a hierarchical clustering only applies to the relationships between plots, and the relative distances between them, within that particular dataset. The addition of new data often alters the relative distances and disrupts the clustering output. Secondly, as an unsupervised method, hierarchical clustering does not define rules for the membership of the defined groups, and so the addition of new plots requires the rebuilding of the entire hierarchy (De Cáceres and Wiser 2012).

The data for the Swan Coastal Plain regional survey (Gibson *et al.* 1994) was downloaded from the NatureMap website. This is largely similar to the original survey except for one site (OATES-1), which has now been excluded. The species nomenclature of the original dataset was updated to be consistent with current usage. Where original names could not be matched clearly to the updated usage, those taxa were removed from the analysis. The data from the plots of Lot 7 and Lot 4 Runnymede Rd surveys (undertaken concurrently) was added to the matrix both together and also one plot a time, which served to remove any effect of spatial correlation between the new plots. Each new dataset was then analysed calculating the Bray-Curtis distance coefficient (or resemblance measure) and the flexible beta linkage method (beta = -0.1). Assignment of the Runnymede Rd plots was to the nearest distinct group by inspection of the resulting dendrogram.

2.4.2.2 Non-hierarchical clustering

Non-hierarchical clustering methods often allow new plot data to be added to previous classifications because they are based on the concept that each group or cluster is represented by a prototype i.e. either a centroid or a medoid (a 'type' plot) (De Cáceres and Wiser 2012). Therefore, new observations can be assigned to an existing classification by calculating the distance to the nearest prototype (which may be considered a membership criterion). This approach is to be preferred to the hierarchical reconstruction approach because it defines numerical rules that can be consistently applied. However, it also means the original classification needs to be re-analysed using a different method, which can be problematic because not all sites from the original classification may be diagnostic for their respective clusters.

For the analysis of the Runnymede Rd data, the same updated Swan Coastal Plain dataset was used as for the hierarchical clustering analysis. After calculating a Bray-Curtis distance matrix, the dataset was then analysed using Fuzzy C-Means clustering in the R package 'Vegclust'. A fuzziness coefficient of 1.1 was chosen to minimise influence from noisy data points. FCTs with too few plots to reliably define determine a prototype (e.g. FCT 14 with two plots) were removed from the analysis. Similarly, some plots that were regularly being misclassified (such as those from clusters with large internal heterogeneity) were also removed. The final dataset consisted of 344 plots with 1316 taxa representing 38 FCTs. Each site of the Runnymede Rd data was then assigned a FCT using function 'vegclass' in the Vegclust package.

It should be noted that this approach for FCT assignment is preliminary and will need to be refined further before it can be used consistently. For example, the assignment of sites to dryland FCTs gives robust and consistent results. Sampling of seasonally-inundated wetlands, however, often gives problematic results as these floristic types show a greater degree of floristic overlap between groups and/or require additional sampling to provide a clearer differentiation between such groups. Also, disturbed sites with a high proportion of introduced taxa often give spurious results.

2.4.3 Conservation significant vegetation

An ecological community is defined as a naturally occurring biological assemblage that occurs in a particular type of habitat composed of specific abiotic and biotic factors.

At the State level, ecological communities may be considered Threatened once they have been identified as such by the WA Threatened Ecological Communities Scientific Advisory Committee. A TEC is defined under the EP Act as an ecological community listed, designated or declared under a written law or a law of the Commonwealth as threatened, endangered or vulnerable. There are four categories of TEC, as described in Table 5. Some State TECs are also listed as Threatened under the Commonwealth EPBC Act.

Ecological communities identified as threatened, but not listed as TECs, can be classified as Priority Ecological Communities (PECs). These communities are under threat, but there is insufficient information available concerning their distribution to make a proper evaluation of their conservation status. DBCA uses five categories of PEC according to their conservation priority, as described in Table 5.

Table 5. Conservation Codes for WA Vegetation (DEC 2013)

Conservation Code	Description and rating
Threatened Ecological Community (TEC)	A community is one which is found to fit into one of the following categories; “presumed totally destroyed”, “critically endangered”, “endangered” or “vulnerable”.
presumed totally destroyed	An ecological community that has been adequately searched for but for which no representative occurrences have been located. The community has been found to be totally destroyed or so extensively modified throughout its range that no occurrence of it is likely to recover its species composition and/or structure in the foreseeable future.
critically endangered	An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or that was originally of limited distribution and is facing severe modification or destruction throughout its range in the immediate future, or is already severely degraded throughout its range but capable of being substantially restored or rehabilitated
endangered	An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or was originally of limited distribution and is in danger of significant modification throughout its range or severe modification or destruction over most of its range in the near future.
vulnerable	An ecological community that has been adequately surveyed and is found to be declining and/or has declined in distribution and/or condition and whose ultimate security has not yet been assured and/or a community that is still widespread but is believed likely to move into a category of higher threat in the near future if threatening processes continue or begin operating throughout its range.
Priority Ecological Community (PEC)	Possible threatened ecological communities that do not meet survey criteria or that are not adequately defined are added to the Priority Ecological Community List under priorities 1, 2 and 3. These three categories are ranked in order of priority for survey and/or definition of the community. Ecological communities that are adequately known, and are rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list, are placed in Priority 4. These ecological communities require regular monitoring. Conservation Dependent ecological communities are placed in Priority 5.

Conservation Code	Description and rating
Priority One	Poorly-known ecological communities. Ecological communities that are known from very few occurrences with a very restricted distribution (generally ≤5 occurrences or a total area of ≤ 100ha).
Priority Two	Poorly-known ecological communities. Communities that are known from few occurrences with a restricted distribution (generally ≤10 occurrences or a total area of ≤200ha).
Priority Three	Poorly known ecological communities (i) Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or: (ii) communities known from a few widespread occurrences, which are either large or with significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat (within approximately 10 years), or; (iii) communities made up of large, and/or widespread occurrences, that may or may not be represented in the reserve system, but are under threat of modification across much of their range from processes such as grazing by domestic and/or feral stock, inappropriate fire regimes, clearing, hydrological change etc.
Priority Four	Ecological communities that are adequately known, rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list. These communities require regular monitoring.
Priority Five	Conservation Dependent ecological communities

3 DESKTOP ASSESSMENT RESULTS

3.1 PHYSICAL ENVIRONMENT

3.1.1 Climate

The Survey Area is in the south-west of WA and experiences a temperate climate with dry, hot summers and cool, wet winters.

The Bureau of Meteorology (BoM) Wokalup Station (Site No.9642), is within 12km of the Survey Area and has up to 65 years of records (1951-2019) (Table 6). Data from the Wokalup station indicates the mean maximum temperature ranges from 16.7°C in July to 31.0°C in January, and the mean minimum temperature ranges from 7.9°C in July to 16.1°C in February. The mean annual rainfall is 936.2mm (BoM 2019).

Table 6. Climate statistics. Bureau of Meteorology, Wokalup Station (Site No. 9642).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature (°C)													
Mean max.	31.0	30.8	28.3	24.2	20.2	17.5	16.7	17.1	18.7	21.1	24.0	28.1	23.1
Mean min.	15.5	16.1	14.8	12.7	10.6	9.0	8.0	7.9	8.5	9.4	11.4	13.7	11.5
Rainfall (mm)													
Mean	14.5	15.3	20.7	51.4	134.6	180.5	182.6	134.3	95.8	57.7	35.7	15.3	936.2

3.1.2 Geology, landforms and soils

The Survey Area is located within the Swan Coastal Plain (SCP). The SCP represents the Quaternary surface of the Perth Basin and lies in a 30km wide band between the coast and the Darling Scarp, extending approximately 600km from Geraldton to Dunsborough (Playford *et al.* 1976).

The landform of the SCP is characterised as low-lying coastal plains, often swampy, with sand hills consisting mainly sandy, yellow soils (Beard 1990).

The Survey Area lies within the Spearwood dune geomorphic unit of the SCP (Figure 3). The Spearwood system is described as dune ridges with deep siliceous yellow brown sands or pale sands with yellow-brown subsoil.

The sand reaches a maximum thickness of 20 metres and is underlain by sandy clays of the Guildford Formation and limestone of the Tamala Formation.

A search of the Acid Sulphate Soil (ASS) risk map for the Swan Coastal Plain identified the area to be outside any mapped risk polygons.

3.1.3 Hydrology

The Survey Areas lies within the Coastal Catchment of the Harvey River Basin and does not fall within a Public Drinking Water Source Area (Western Australian Land Information System [WALIS] 2017).

The Site is within the Rights in Water and Irrigation Act (RIWI) Groundwater Proclamation Area (South West Coastal Groundwater Area), but outside any RIWI Act Surface Water Management Areas.

Locally, there are no defined drainage lines within the extraction area as drainage occurs by infiltration into the porous sand surface. There is no expression of surface water within the Survey Area.

3.1.4 Hydrogeology

The Survey Area is within the Bunbury trough of the Southern Perth Basin (DoW 2009).

Based on an evaluation of information provided by the Department of Water, together with data on static water elevation obtained from the drill log of a private bore sited on the adjoining Lot 4, groundwater occurs at an average of 7mAHD, with an annual variation of approximately 1 meter. Groundwater flow is towards the Mialla Swamp to the west.

3.2 VEGETATION

3.2.1 Regional Vegetation Mapping

The Survey Area lies within the Drummond Botanical Sub-district of the Darling Botanical District, which falls within the Southwest Botanical Province (Beard 1980) and is recognised as having a very high degree of species diversity.

The Drummond Botanical Sub-district is characterised by Banksia woodland on leached sands with Melaleuca swamps; woodlands of tuart (*Eucalyptus gomphocephala*), jarrah (*Eucalyptus marginata*) and marri (*Corymbia calophylla*) (Beard, 1990). Dominant plant families of the Drummond Botanical Sub-district include Proteaceae, Myrtaceae and Fabaceae.

3.2.2 Biogeographic Regionalisation (IBRA 7)

The Biogeographic Regionalisation of Australia (IBRA) divides Australia into 89 bioregions based on major biological and geographical/geological attributes. These bioregions are subdivided into 419 subregions, as part of a refinement of the IBRA framework. The Survey Area is situated in the Perth subregion (SWA02) of the Swan Coastal Plain IBRA bioregion (DEE 2018; Thackway and Cresswell 1995) (Figure 4).

The Perth subregion (SWA02) is composed of colluvial and aeolian sands, alluvial river flats, coastal limestone. It comprises of Heath and/or Tuart woodlands on limestone, Banksia and Jarrah-Banksia woodlands on Quaternary marine dunes of various ages, and Marri on colluvial and alluvials and also includes a complex series of seasonal wetlands (Mitchell *et al.* 2002).

3.2.3 Pre-European vegetation

As discussed in Section 2.4.1, state and regional scale vegetation classification systems are described in terms of “Vegetation Association” and “Vegetation Complex”:

- Vegetation Association (NVIS III)- Structural form and dominant species (1:1,000,000 -to 250,000)
- Vegetation Complex (NVIS IV)– structural and floristic description linked to geomorphology (1:250 000 to 1:100 000)

In Western Australia, the datasets that map native vegetation occurring prior to European settlement at both a Vegetation Association and Vegetation Complex scale are described below:

- State wide Vegetation Association mapping is based on published and unpublished mapping of J. S. Beard at 1:250,000 scale (Beard 1990 and Beard *et al.* 2005).
- Vegetation Complex mapping for the south-west of Western Australia:
  - 1:250,000 Swan Coastal Plain Vegetation Complexes (Heddle *et al.* 1980) as updated by Webb *et al.* (2016)
  - 1:50,000 Mapping of vegetation complexes in the South West Forest Region of Western Australia (Mattiske and Havel 1998) as updated by Webb *et al.* (2016).

3.2.3.1 Vegetation Association

The Survey Area is supported by the Spearwood_6 vegetation association, which is broadly described as a medium woodland; tuart and jarrah (Beard *et al.* 2005; Government of Western Australia 2018b). The vegetation association of the Survey Area (within the Swan Coastal Plain) and its remaining extent in WA and the Swan Coastal Plain is presented in Table 7 and Figure 5.

Table 7. Pre-European Vegetation Extent (Source: Beard *et al.* 2005, Government of Western Australia 2018b)

Veg. Association and Ref No.	Extent Context	Pre–European Extent (ha)	Current Extent (ha)	% Pre European Extent Remaining	% Current Extent Protected (IUCN I –IV)
Spearwood_6	Swan Coastal Plain	56,343ha	14,579ha	25.8%	12.9%

Source: Government of Western Australia (2018b)

3.2.3.2 Vegetation Complex

Vegetation complexes are patterns of vegetation at a regional scale, and are based on factors such as landform, soil and climate.

The vegetation complex of the Survey Area is part of the "Karrakatta Complex – Central and South", which is described as 'predominantly open forest of *Eucalyptus gomphocephala – E. marginata- E. calophylla* and woodland of *E. marginata – Banksia* spp.' (Webb *et. al* 2016).

The remaining extent of the vegetation complex of the Survey Area is presented in Table 8 and Figure 6.

Table 8. Vegetation Complex extent summary

Veg. Complex	Extent Context	Pre–European Extent (ha)	Current Extent (ha)	% Pre European Extent Remaining
Karrakatta Complex – Central and South	Swan Coastal Plain	2,178.42ha	2,143.61ha	98.4%

Source: Webb *et. al* (2016)

3.2.4 Threatened and Priority Ecological Communities:

According to various databases, the entire Survey Area has been mapped as a community that is likely to contain Banksia Woodlands of the Swan Coastal Plain ecological community, an Endangered TEC listed as under the EPBC Act. A summary of the database search results, including the likely presence of TECs, is presented in Appendix 3.

Field assessments were used to confirm the presence of the TEC within the Study area.

3.2.5 Environmentally Sensitive Areas and Wetlands

There are no Environmentally Sensitive Areas (ESA) as defined by the Native Vegetation Clearing Regulations within the Survey Area. The two closest ESAs are located approximately 1.8km west and 1km east of the Survey Area and are both associated with conservation category wetlands.

The nearest Ramsar Wetland, the Peel-Yalgorup System (Australian Ramsar Site No. 36), is approximately 5.8km north west of the Survey Area.

3.3 FLORA

3.3.1 Conservation Significant Flora

Database searches of NatureMap (DBCA 2018d), the DBCA Threatened and Priority Flora (DBCA 2018c), and the WA Herbarium Threatened Flora Databases Florabase (WA Herbarium 2018) as well as the DEE protected matters database (DEE 2018b) were undertaken to determine whether any Threatened or Priority flora are known from within a 5 km radius of the Survey Area. The literature review and database searches identified 21 conservation significant species in proximity of the Survey Area, representing ten Threatened Flora, nine Priority Flora and two species undetermined (*Caladenia georgei* x *speciosa*; *Caladenia paludosa* x *speciosa*) (Figure 7). Of the 21 conservation significant species recorded, six (two Threatened Flora; and four Priority Flora) were recorded within approximately 2km from the Survey Area:

- *Acacia semitrullata* (P4)
- *Boronia juncea subsp. Juncea* (P1)
- *Dillwynia dillwynioides* (P3)
- *Drakaea elastica* (T)
- *Drakaea micrantha* (T); and
- *Lasiopetalum membranaceum* (P3).

The list of previously recorded conservation significant species, their habitat preference and likelihood of occurrence within the Survey Area is summarised in Table 9. Analysis of the preferred habitat and soil type found that two Priority 4 species had the potential to occur within the Survey Area (*Caladenia speciosa* and *Acacia semitrullata*), with the remaining species preferring seasonally wet habitats or soil types not found in the Survey Area.

A summary of the database search results, including conservation significant flora, is presented in Appendix 3.

Table 9. Conservation significant flora occurring in proximity to the Survey Area.

Species	EPBC Act	BC Act /DBCA*	Description	Potential to occur (soil type/habitat within Survey Area)
Acacia flagelliformis		P4	Rush-like, erect or sprawling shrub, 0.3-0.75(-1.6) m high. Fl. yellow, May to Sep. Sandy soils. Winter-wet areas.	Unlikely
Acacia semitrullata		P4	A slender, erect, pungent shrub to 1.5m tall. Flowers are cream- white and visible in May to October. Habitat for this species is in white/grey sand sometimes over laterite or clay. This species occurs in sandplains and swampy areas.	Possible
Andersonia gracilis	Endangered	T	Slender erect or open straggly shrub, 0.1-0.5(-1) m high. Fl. white-pink-purple, Sep to Nov. White/grey sand, sandy clay, gravelly loam. Winter-wet areas, near swamps.	Unlikely
Austrostipa bronwenae	Endangered	T	Perennial, rhizomatous grass to 1.5m tall (including flower spikes). The inflorescence is 10 to 20cm long. Flowering occurs in October through November. Fruit matures in November to December. Grows in calcareous, winter-wet grey-brown sandy-loam or dark brown loam over clay	Unlikely
Boronia capitata subsp. gracilis		P3	Slender shrub, 0.3-0.6(-3) m high, branches pilose. Fl. pink, Jun to Nov. White/grey or black sand. Winter-wet swamps, hillslopes.	Unlikely
Boronia juncea subsp. juncea		P1	Slender or straggly shrub, pedicels and sepals glabrous. Fl. pink, Apr. Sand. Low scrub.	Unlikely
Caladenia georgei x speciosa			Insufficient information available	Unlikely
Caladenia huegelii	Endangered	T	Tuberous, perennial, herb, 0.25-0.6 m high. Fl. green & cream & red, Sep to Oct. Grey or brown sand, clay loam.	Unlikely
Caladenia paludosa x speciosa			Insufficient information available	Unlikely
Caladenia procera	Critically Endangered	T	Tuberous, perennial, herb, 0.35-0.9 m high. Fl. yellow, Sep to Oct. Rich clay loam. Alluvial loamy flats, jarrah/marri/peppermint woodland, dense heath, sedges.	Unlikely
Caladenia speciosa		P4	Tuberous, perennial, herb, 0.35-0.6m high. Flowers Sep-Oct. Occurs in white, grey or black sand.	Possible
Cyathochaeta teretifolia		P3	Rhizomatous, clumped, robust perennial, grass-like or herb (sedge), to 2 m high, to 1.0 m wide. Fl. brown. Grey sand, sandy clay. Swamps, creek edges.	Unlikely
Dillwynia dillwynioides		P3	Decumbent or erect, slender shrub, 0.3-1.2 m high. Fl. red & yellow/orange, Aug to Dec. Sandy soils. Winter-wet depressions.	Unlikely

Species	EPBC Act	BC Act /DBCA*	Description	Potential to occur (soil type/habitat within Survey Area)
Diuris drummondii		T	Tuberous, perennial, herb, 0.5-1.05 m high. Fl. yellow, Nov to Dec or Jan. Low-lying depressions, swamps.	Unlikely
Diuris micrantha	Vulnerable	T	Basal tuft of narrow, linear leaves and a loose, slender inflorescence up to 60 cm high. The yellow flowers have reddish-brown markings and are up to 1.3 cm across. Flowers appear from August to early October. It is found in small populations, on dark, grey to blackish, sandy clay-loam substrates in winter wet depressions or swamps.	Unlikely
Drakaea elastica	E	T	A slender orchid to 30 cm tall with a prostrate, round to heart shaped leaf. Singular, bright green, glossy flower. Habitat for this species is within bare patches of white sand over dark sandy loams on damp areas.	Unlikely
Drakaea micrantha	Vulnerable	T	Tuberous, perennial, herb, 0.3-0.6 m high. Fl. yellow & brown, Sep to Oct. Brown loamy clay. Winter-wet swamps, in shallow water.	Unlikely
Lasiopetalum membranaceum		P3	Multi-stemmed shrub, 0.2-1 m high. Fl. pink-blue-purple, Sep to Dec. Sand over limestone.	Unlikely
Synaphea sp. Fairbridge Farm	Critically Endangered	T	Dense, clumped shrub, to 0.3 m high, to 0.4 m wide. Fl. yellow, Oct. Sandy with lateritic pebbles. Near winter-wet flats, in low woodland with weedy grasses.	Unlikely
Synaphea sp. Serpentine	Critically Endangered	T	Plants clumped, Spikes long, undulating, Flowers small, openly spaced, Sparsely hairy to hairless in upper 1/3 of fruit body. Occurs predominantly on flat terrain on grey-brown sandy loams to clay in seasonally wet areas.	Unlikely
Tripterococcus sp. Brachylobus		P4	Perennial herb to 0.6m with yellow flowers. Sand overlay	Unlikely

*DBCA 2018a

3.3.2 Introduced Flora

The Shire of Harvey has 47 Declared Pests listed under Section 22(2) of the BAM Act, six of which have the strongest level of control category (C2 Eradication):

- *Chondrilla juncea* (skeleton weed);
- *Pistia stratiotes* (water lettuce);
- *Prosopis glandulosa* x *Prosopis velutina* (mesquite);
- *Ulex europaeus* (gorse);
- *Xanthium spinosum* (thorny burweed); and
- *Xanthium strumarium* (sheepbur).

3.4 SOCIAL ENVIRONMENT

3.4.1 Heritage

An Aboriginal Heritage Inquiry System (Department of Planning Lands and Heritage https://maps.daa.wa.gov.au/AHIS/) identified five heritage surveys conducted over the entire (or part of the) Survey Area:

- Heritage Survey Area 104608 (1): Bunbury-Wellington Regional Planning Study: Aboriginal Heritage & Planning Survey: working paper no. 6
- Heritage Survey Area 23321 (1): Report of an archaeological and ethnographic Aboriginal Heritage Survey of Lot 4 Runnymede Road, Wellesley, Western Australia
- Heritage Survey Area 103801 (1): Report of a Survey for Aboriginal Sites, Korijekup Seismic Program. Jan.1991.
- Heritage Survey Area 104079 (1): Bunbury-Wellington Regional Planning Study: Working Paper no.6, Aboriginal Heritage and Planning Survey. [Open] Released for Public Comment July 1992.
- Heritage Survey Area 102190 (1): Report on Aboriginal Sites of the Lake Peel-Preston Lakelands.

According to the Aboriginal Heritage Inquiry System, no Registered Aboriginal Sites or other Heritage Places have been recorded in the Survey Area. The nearest site is “Registered Aboriginal Site 15371 – Australind: Buffalo Rd Burial”, and “Registered Aboriginal Site 16713 – Collie River Waugal” located approximately 8.2km south west of the Survey Area.

3.5 LOCAL STUDIES

Environmental studies (incorporating flora and vegetation assessments) near the Survey Area include:

- Mattiske Consulting (2003). Flora and Vegetation Survey of the Proposed Kwinana to Australind Gas Pipeline Infrastructure Corridor. Prepared for BBG and Department of Mineral and Petroleum Resources. November 2003.
- GHD (2017) Additional Area Assessment – Biological Assessment within the Kemerton Strategic Industrial Area. Memo for Albemarle Lithium Pty Ltd. October 2017.
- Ecological Australia (2017) Kemerton Industrial Area Spring Flora and Fauna Survey. Report prepared for S2V Consulting. September 2017.

4 FIELD ASSESSMENT RESULTS

4.1 LIMITATIONS AND CONSTRAINTS

There were very few constraints for this survey and all potential limitations are outlined in Table 10.

Table 10. Survey limitations

Potential limitation	Constraint	How this was addressed
Availability of contextual information at a regional and local scale	Not a constraint	Large range of reference resources was available, including vegetation association and complex information, DBCA conservation significant flora and ecological community databases (DBCA 2018c; 2018f; 2018g) as well as other studies within or near the Survey Area.
Competency/experience of the team carrying out the survey, including experience in the bioregion surveyed	Not a constraint	All botanists had extensive experience working in the south west. Refer to Section 2.2.1.
Proportion of flora recorded and/or collected, any identification issues	Not a constraint	The survey intensity was considered thorough with adequate replication of survey sites selected via pre-planned quadrat locations and opportunistic field reconnaissance. The Survey Area was easily accessible by car and the entire site could be traversed on foot.
Appropriate area fully surveyed (effort and extent)	Not a constraint	Coverage of the Survey Area is good. Site is relatively small and easy to traverse, and so entire Survey Area was mapped. High quality aerial maps were used during the survey and desktop mapping.
Access restrictions within the Survey Area	Not a constraint	Vehicle access to the Survey Area via Stanley Road and internal tracks provided no restrictions. Some foot traverse required to access southern boundary of Survey Area.
Survey timing, rainfall, season of survey	Not a constraint	Optimum flowering period following good winter rainfall in 2018. Appropriate survey time for targeted orchid species was confirmed with DBCA prior to field visit.
Disturbance that may have affected the results of survey such as fire, flood or clearing	Not a constraint	No recent major disturbance event has occurred within the Survey Area. The site was very degraded due to heavy grazing and the understory was limited.

4.2 FLORA

4.2.1 Overview

A total of 81 taxa from 63 genera and 34 families were identified in the Survey Area. Of the 81 taxa recorded, nine taxa were introduced flora and 72 were native species (88.9% of taxa recorded). The commonly occurring families were Fabaceae and Myrtaceae (with 5 taxa each), Orchidaceae (7 taxa), as well as Asparagaceae and Asteraceae (with 8 taxa each).

A flora inventory is provided in Appendix 4.

4.2.2 Threatened and Priority Flora

No Threatened species listed under the EPBC Act or gazetted as Declared Rare Flora (Threatened) pursuant to the BC Act were recorded in the Survey Area.

Three Priority flora, as listed by DBCA (2018a) were recorded in the Survey Area. The recorded Priority species included one P4 species (*Acacia semitrullata*), one P2 species (*Millotia tenuifolia* ?var. *laevis*); one P3 species (*Lasiopetalum* ?*membranaceum*) (Figure 8). The last two taxa (*Millotia* and *Lasiopetalum*) could not be identified with certainty as they were either sterile or the flowering material was immature, but the identifications provided are the most likely outcome.

4.2.3 Range extensions

The Survey Area did not represent a range extension for any of the flora recorded.

4.2.4 Introduced Flora

A total of nine introduced species, representing 11% of the total taxa, were recorded during the survey and are listed in Table 11. No species recorded are listed as Declared Pests under the BAM Act or WONS.

Table 11. Introduced flora records from the Survey Area

Species	Common name	No. of quadrats with records
Arctotheca calendula	capeweed	1
Asphodelus fistulosus	onion weed	1
Briza maxima	blowfly grass; quaking grass	4
Cotula turbinata	mayweed	1
Ehrharta longiflora	annual veld grass	2
Hypochaeris glabra	smooth cats-ear	7
Petrorhagia dubia	velvety pink	1
Ursinia anthemoides	ursinia	4
Vulpia bromoides	squirrel-tail fescue	1

4.3 VEGETATION

4.3.1 Overview

One vegetation type was described for the entire Survey Area:

> *Banksia attenuata* - *Eucalyptus marginata* open woodland over a *Hibbertia hypericoides* – *Melaleuca thymoides* low open shrubland over a herbland of *Dasypogon bromeliifolius*.

The extent of this vegetation type is mapped in Figure 8. A matrix showing species per site is also presented in Appendix 5.

4.3.2 Hierarchical analysis

The results of the hierarchical analysis show that plots either assigned themselves to FCT 21a – 'Central *Banksia attenuata* – *Eucalyptus marginata* woodlands' or FCT 21c – 'Low-lying *Banksia attenuata* woodlands or shrublands' (Table 12). The results are consistent with similarities in the presence of dominant species, however once landscape position is also considered/assessed, it is less likely that the Survey Area is consistent with FCT 21c, given the site's relatively high landscape position.

Dendrogram outputs from the analysis are shown in Appendix 6.

The plots that could not be assigned an FCT were first fused with PAGA – 6, which as a member of FCT 25 – 'Southern *Eucalyptus gomphocephala – Agonis flexuosa* woodlands'. This similarity is likely due to the presence of *Agonis flexuosa* within the site, but PAGA – 6 is a transitional plot with similarities to plots within FCTs 11, and hence has led to a misleading assignment.

Table 12. Hierarchical analysis for plots from the Lot 7 Runnymede Rd Survey Area

Site	FCT First fusion	FCT of nearest main group fusion	Possible FCT
Plot 8	25	21a	21a
Plot 9	21a	21a	21a
Plot 10	21a	21a	21a
Plot 11	21c	21c	21c
Plot 109	21c	5	21c
Plot 110	21c	5	21c
Plot 111	25	11	undetermined
Plot 112	21c	5	21c

4.3.3 Non-hierarchical analysis

The results of the FCT assignment by non-hierarchical analysis were inconclusive and are shown in Table 13. The results show the highest similarity to either a deeper wetland group (FCTs 13, 15, 16, 17) or FCT 6 for each plot, although the strengths of membership (similar to a probability) are not strong and not much greater than to other groups. This result is often due to fewer native species present within the site than those plots sampled in the Swan Coastal Plain survey. This can occur in otherwise 'Excellent' condition vegetation that has been exposed to disturbances such as increased fire regimes, altered hydrological conditions, recreational usage or grazing that may not degrade the structure of the vegetation but allow a higher degree of weed infestation and suppress some native species.

Table 13. Non- hierarchical analysis for plots from the Lot 7 Runnymede Rd Survey Area.

Plot	FCT of nearest group*	FCT of 2nd nearest group	FCT of 3rd nearest group
Plot 8	6 (32.7%)	13,15,16,17 (26.4%)	5 (10.1%)
Plot 9	6 (37.3%)	13,15,16,17 (18.8%)	5 (12.3%)
Plot 10	6 (28.5%)	5 (16.0%)	21c (13.0%)
Plot 11	6 (35.8%)	13,15,16,17 (13.2%)	21c (13.1%)
Plot 109	13,15,16,17 (29.3%)	6 (23.4%)	29/30 (19.2%)
Plot 110	13,15,16,17 (37.5%)	6 (28.0%)	29/30 (14.7%)
Plot 111	6 (41.9%)	13,15,16,17 (35.4%)	29/30 (14.9%)
Plot 112	13,15,16,17 (50.5%)	6 (28.6%)	29/30 (13.5%)

* Strength of membership shown in brackets

4.3.4 Threatened and Priority Ecological Communities

The Survey Area is considered to be consistent with FCT 21a, which is not listed as a PEC under WA State Policy (DBCA 2019).

The vegetation type within the site was also assessed for consideration as part of the Commonwealth's EPBC Act-listed TEC 'Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region' (Banksia Woodlands TEC). This TEC was gazetted in September 2016 (Commonwealth of Australia 2016).

To be considered as part of the Banksia Woodlands TEC, a patch of banksia woodland needs to meet a number of criteria:

- occurrence on the Swan Coastal Plain and immediately adjacent areas of the Whicher Scarp, Ridge Hill Shelf and Dandaragan Plateau in well-drained, low nutrient soils on sandplain landforms;
- the structure is that of a low woodland to forest;
- the canopy is commonly dominated by or co-dominated by *Banksia attenuata* and/or *Banksia menziesii*;
- the patch must include at least one of *Banksia attenuata*, *Banksia menziesii*, *Banksia ilicifolia* or *Banksia prionotes*; and
- the canopy may include emergent trees of *Eucalyptus marginata* or *Corymbia calophylla*.

The condition of the patch is also important in determining the presence of the Banksia Woodlands TEC. A patch must meet the criteria for 'Good' condition or better according to the Keighery (1994) Condition Scale (see Table 3 in Section 2.2.5). If a patch is rated as being in 'Good' condition, then it must also be at least 2 ha in size.

4.3.5 Vegetation Condition

The vegetation of the Survey Area ranged from 'Excellent' to 'Degraded', with the majority of the site in an 'Excellent' condition. An area in the west varied from 'Good' to 'Very Good' where more weeds were present and thin pockets along the northern and western boundary were in a 'Degraded' condition as they directly adjoined cleared areas.

As the majority of the vegetation of the site is in a 'Good' or better condition, it meets the criteria for inclusion within the EPBC Act listed Banksia Woodlands TEC (as described above).

Vegetation condition mapping is presented in Figure 9 and the extent described in Table 14. The average fire age of the vegetation was considered greater than three years (at least three years since last fire).

Table 14. Vegetation condition extent in the Survey Area

Condition	Quadrat records	Area (ha)	Area (%)
Excellent	6	11.3	70.8%
Very Good	1	2.6	16.3%
Good	1	1.0	6.4%
Degraded	0	1.0	6.5%

5 DISCUSSION

5.1 FLORA

Database searches identified 21 local conservation significant species, of which two Priority 4 species (*Caladenia speciosa* and *Acacia semitrullata*) were considered as potentially occurring within the Survey Area, based on location of previous records, preferred habitat and soil type.

Field surveys recorded a total of 81 taxa, 63 genera and 34 families. Nine (11%) of these taxa were weeds, none of which are WONS or Declared Pests under the BAM Act.

No Threatened species listed under the EPBC Act or gazetted as Declared Rare Flora (Threatened) pursuant to the BC Act were recorded in the Survey Area, despite targeted searches during optimum flowering times over the entire Survey Area.

Three Priority flora, as listed by DBCA (2018a) were recorded in the Survey Area: *Acacia semitrullata* (P4); *Millotia tenuifolia* ?var. *laevis* (P2); *Lasiopetalum* ?*membranaceum* (P3). Although the *Millotia* and *Lasiopetalum* species could not be identified with certainty (considered either sterile or the flowering material was immature) the identifications provided are the most likely outcome.

5.2 VEGETATION

One vegetation type was described for the Survey Area:

> *Banksia attenuata* - *Eucalyptus marginata* open woodland over a *Hibbertia hypericoides* – *Melaleuca thymoides* low open shrubland over a herbland of *Dasypogon bromeliifolius*.

The vegetation described was most similar to FCT21a, which is part of the EPBC Act Banksia Woodland TEC. The vegetation of the Survey Area ranged from 'Excellent' to 'Degraded', with the majority of the site in an 'Excellent' condition, which also meets the criteria for inclusion within the EPBC Act listed Banksia Woodlands TEC.

5.3 CONCLUSION

The key findings, conclusions and recommendations arising from the flora and vegetation assessment within the Survey Area are as follows:

- No Threatened flora under the BC Act or under the EPBC Act were recorded.
- Three Priority flora (one P2; one P3; and one P4), as listed by DBCA (2018a) were recorded in the Survey Area
- One vegetation type, mainly in 'Excellent' condition, was described and mapped within the Survey Area: *Banksia attenuata* - *Eucalyptus marginata* open woodland over a *Hibbertia hypericoides* – *Melaleuca thymoides* low open shrubland over a herbland of *Dasypogon bromeliifolius.*
- The vegetation of the Survey Area was consistent with FCT 21a, which although not listed as a PEC under WA State Policy (DBCA 2019), is consistent with the Commonwealth EPBC Act listed Banksia Woodlands TEC.

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7 FIGURES

Figure 1. Locality Plan

Figure 2. Sites and Surrounds

Figure 3. Soil Landscape System

Figure 4. Biogeographical Regionalisation of Australia (IBRA)

Figure 5. Pre-European mapping – Vegetation Association (Beard 1990)

Figure 6. Pre-European mapping – Vegetation Complex (Heddle et al. 1980)

Figure 7. Environmental Values

Figure 8. Recorded Vegetation Type and Significant Flora

Figure 9. Vegetation Condition



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Leeming WA 6149
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Scale: 1:580000
Original Size: A4
Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Flora and Vegetation Assessment
Location: Lot 4 Runnymede Rd Wellesley

Figure 1:

Locality Plan

Z:\Catalano\Runnymede Rd Lots 4 & 7_Wellesley_SoH_Sand\Spring 2018 Veg Survey\Drawings\F1 Locality.map 28/11/2018 Map

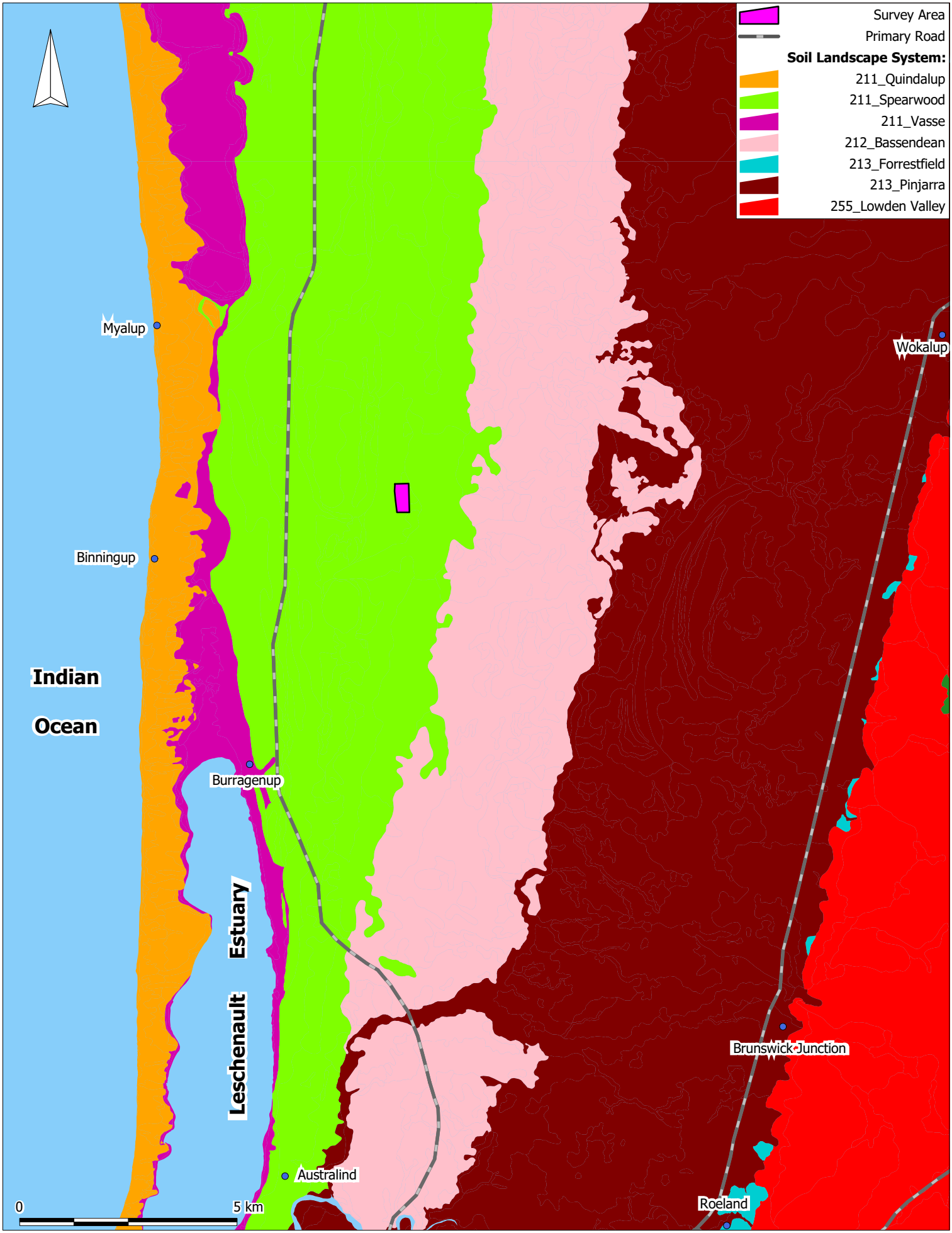


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Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Flora and Vegetation Assessment
Location: Lot 4 Runnymede Rd Wellesley

Figure 2: Site and Surrounds



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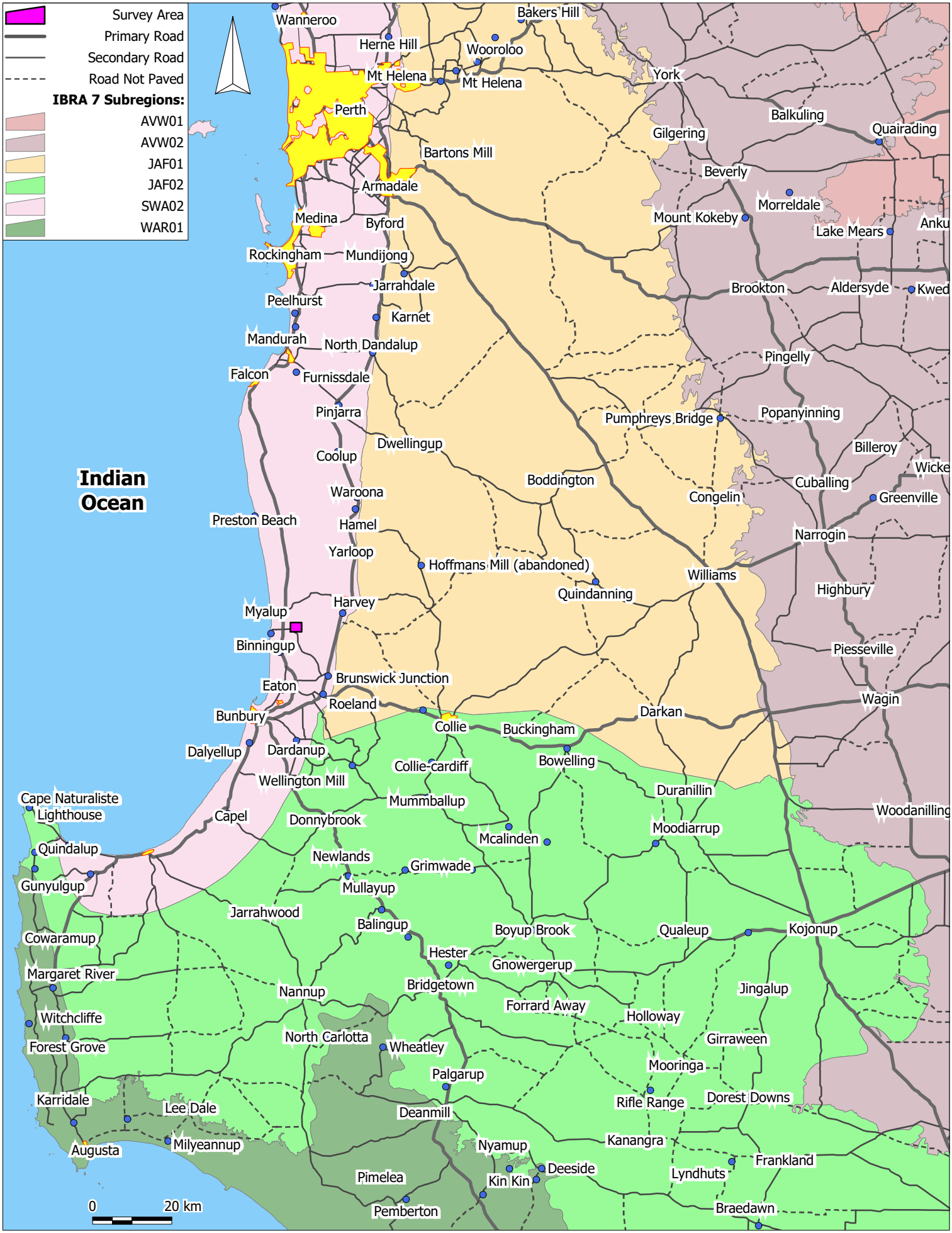
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Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Flora and Vegetation Assessment
Location: Lot 4 Runnymede Rd Wellesley

Figure 3:

Soil Landscape

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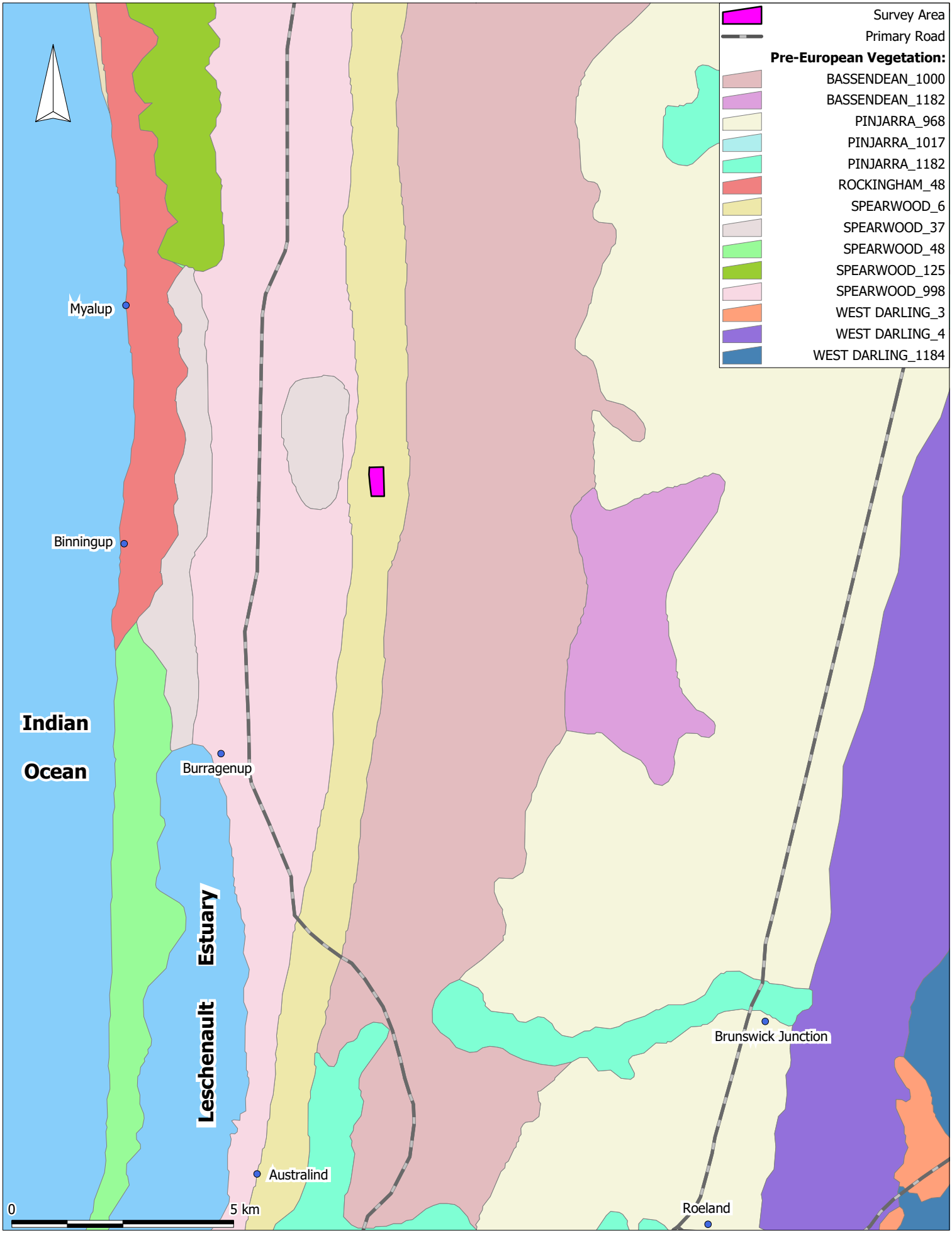
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Original Size: A4
Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Flora and Vegetation Assessment
Location: Lot 4 Runnymede Rd Wellesley

Figure 4: IBRA Subregions

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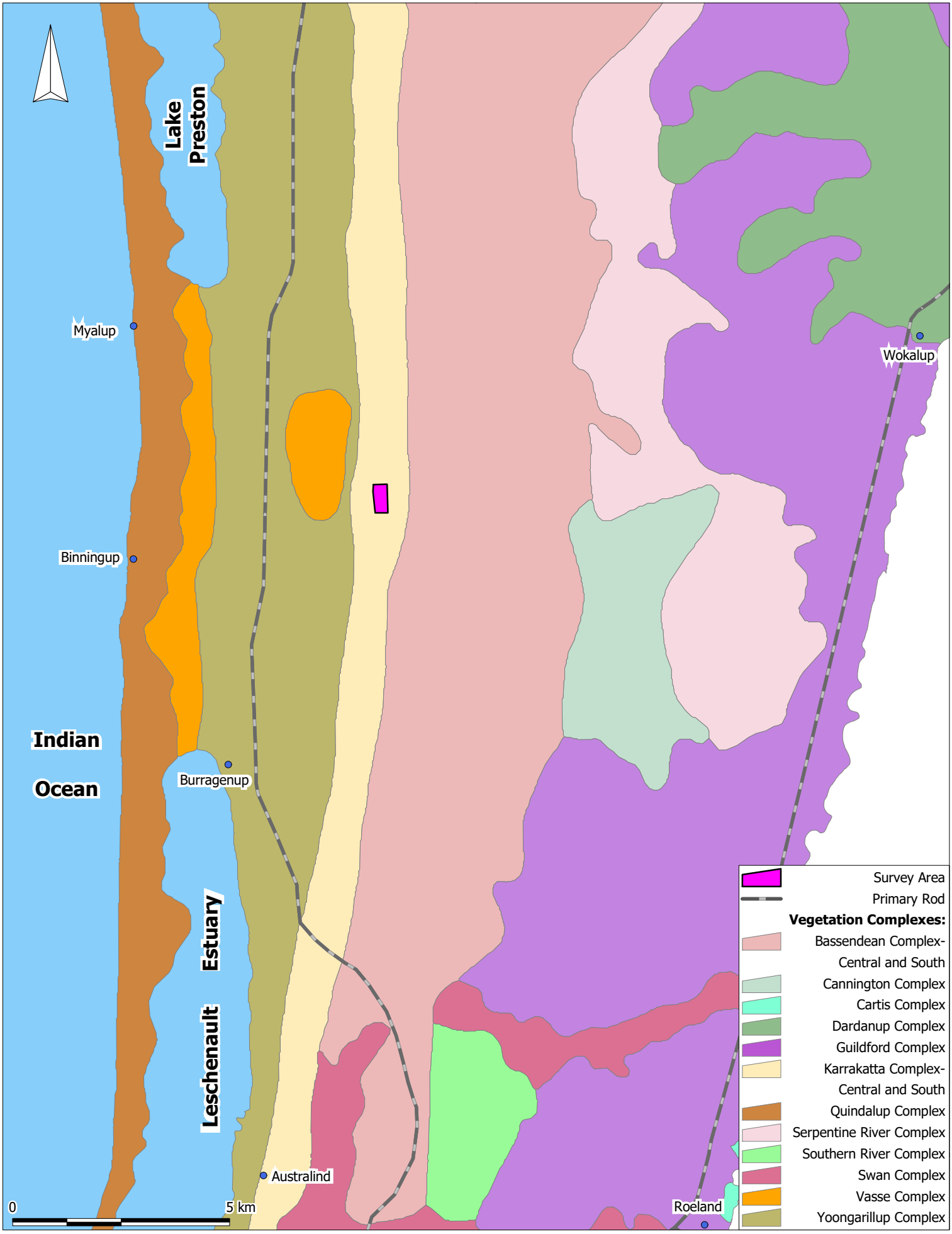


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Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Flora and Vegetation Assessment
Location: Lot 4 Runnymede Rd Wellesley

Figure 5:
Pre-European Vegetation



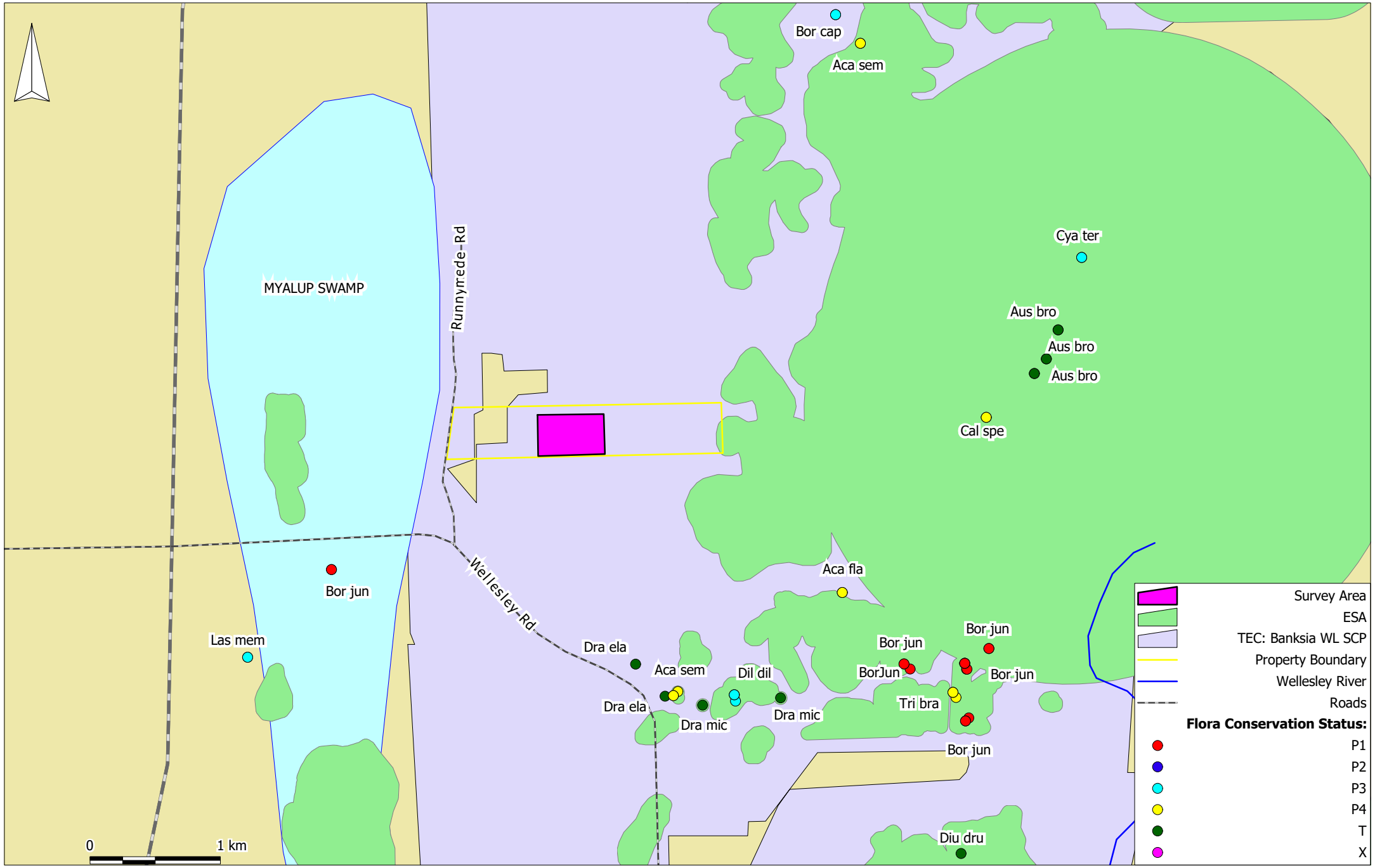
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Scale: 1:110000
Original Size: A4
Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Flora and Vegetation Assessment
Location: Lot 4 Runnymede Rd Wellesley

Figure 6:
Vegetation Complexes

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Scale: 1:37000
Original Size: A4
Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Flora and Vegetation Assessment
Location: Lot 7 Runnymede Rd, Wellesley

Figure 7:
Environmental Values

Z:\Catalano\Runnymede Rd Lots 4 & 7_Wellesley_SoH_Sand\Spring 2018 Veg Survey\Lot 7 Runnymede\Drawings\F7 Environmental Values.map 20-Mar-19



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Scale: 1:2100
Original Size: A4
Air Photo Source: Nearmap May 2017
Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Flora and Vegetation Assessment
Location: Lot 7 Runnymede Rd, Wellesley

Figure 8:

Vegetation Type & Significant Flora

Z:\Catalano\Runnymede Rd Lots 4 & 7_Wellesley_SoH_Sand\Spring 2018 Veg Survey\Lot 7 Runnymede\Drawings\F8&9 Survey Results Lot 7 Runnymede_3.map 20-Mar-19



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Scale: 1:2100
Original Size: A4
Air Photo Source: Nearmap May 2017
Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Flora and Vegetation Assessment
Location: Lot 7 Runnymede Rd, Wellesley

Figure 9:
Vegetation Condition

Z:\Catalano\Runnymede Rd Lots 4 & 7_Wellesley_SoH_Sand\Spring 2018 Veg Survey\Lot 7 Runnymede\Drawings\F8&9 Survey Results Lot 7 Runnymede_3.map 20-Mar-19

8 APPENDICES

Appendix 1. Sampling Site Description

Appendix 2. Declared Pest Plant Categories and Requirements

Appendix 3. Summary of Database Search Results

Appendix 4. Complete Species List (Family grouping)

Appendix 5. Matrix: Species x Quadrat

Appendix 6. Dendrogram outputs from FCT Analysis

APPENDIX 1.

QUADRAT DESCRIPTIONS

Plot 8	
Easting / Longitude	-33.1416338
Northing / Latitude	115.755286
Landform	midslope
Soil colour	Grey
Soil text	Clayey sand
Soil depth	>50 cm
Surface gravel	0
Bare ground %	10
Aspect	W
Fire Interval	>3 years
Slope	0-5
Impact	Low
Grazing	Low
Vegetation Condition	Excellent
Weed cover	0
Strata 1 Height	Trees
Strata 1 Cover	10-30%
Strata 1 Dominance	*Eucalyptus marginata, Agonis flexuosa, Banksia attenuata*
Strata 2 Height	Shrubs <1m
Strata 2 Cover	2-10%
Strata 2 Dominance	*Xanthorrhoea gracilis, Hibbertia hypericoides, Melaleuca thymoides*
Strata 3 Height	Herbs
Strata 3 Cover	10-30%
Strata 3 Dominance	*Lepidosperma squamatum*



Plot 9	
Easting / Longitude	-33.1415214
Northing / Latitude	115.7545775
Landform	Midslope
Soil colour	Grey
Soil text	Clayey sand
Soil depth	>50 cm
Surface gravel	0
Bare ground %	5
Aspect	W
Fire Interval	>3 years
Slope	0-5
Impact	Low
Grazing	Low
Vegetation Condition	Excellent
Weed cover	0
Strata 1 Height	Trees
Strata 1 Cover	10-30%
Strata 1 Dominance	*Eucalyptus marginata, Agonis flexuosa, Banksia attenuata*
Strata 2 Height	Shrubs <1m
Strata 2 Cover	2-10%
Strata 2 Dominance	*Xanthorrhoea gracilis, Hibbertia hypericoides, Melaleuca thymoides*
Strata 3 Height	Herbs
Strata 3 Cover	30-70%
Strata 3 Dominance	*Dasypogon bromeliifolius*



Plot 10	
Easting / Longitude	-33.1416705
Northing / Latitude	115.7521935
Landform	midslope
Soil colour	Grey
Soil text	Clayey sand
Soil depth	>50 cm
Surface gravel	0
Bare ground %	10
Aspect	W
Fire Interval	>3 years
Slope	0-5
Impact	Low
Grazing	Low
Vegetation Condition	Excellent
Weed cover	0
Strata 1 Height	Trees
Strata 1 Cover	10-30%
Strata 1 Dominance	*Eucalyptus marginata, Banksia attenuata, Corymbia calophylla*
Strata 2 Height	Shrubs <1m
Strata 2 Cover	10-30%
Strata 2 Dominance	*Xanthorrhoea gracilis, Hibbertia hypericoides, Melaleuca thymoides*
Strata 3 Height	Herbs
Strata 3 Cover	10-30%
Strata 3 Dominance	*Dasypogon bromeliifolius*



Plot 11	
Easting / Longitude	-33.1414014
Northing / Latitude	115.7511388
Landform	midslope
Soil colour	Grey
Soil text	Clayey sand
Soil depth	>50 cm
Surface gravel	0
Bare ground %	5
Aspect	W
Fire Interval	>3 years
Slope	0-5
Impact	Low
Grazing	Low
Vegetation Condition	Very good
Weed cover	0
Strata 1 Height	Trees
Strata 1 Cover	10-30%
Strata 1 Dominance	*Eucalyptus marginata, Banksia attenuata, Corymbia calophylla, Agonis flexuosa*
Strata 2 Height	Shrubs <1m
Strata 2 Cover	2-10%
Strata 2 Dominance	*Xanthorrhoea gracilis, Hibbertia hypericoides, Melaleuca thymoides*
Strata 3 Height	Herbs
Strata 3 Cover	2-10%
Strata 3 Dominance	*Dasypogon bromeliifolius*



Plot 109	
Easting / Longitude	383889
Northing / Latitude	6332504
Landform	Mid slope
Soil colour	Grey
Soil text	Clayey Sand
Soil depth	>50 cm
Surface gravel	0
Bare ground %	1
Aspect	N
Fire Interval	>3 years
Slope	5-15
Impact	Low
Grazing	Low
Vegetation Condition	Excellent
Weed cover	0
Strata 1 Height	Trees
Strata 1 Cover	30-70%
Strata 1 Dominance	*Eucalyptus marginata, Agonis flexuosa, Banksia attenuata*
Strata 2 Height	Shrubs <1m
Strata 2 Cover	2-10%
Strata 2 Dominance	*Hibbertia hypericoides, Melaleuca thymoides*
Strata 3 Height	Herbs
Strata 3 Cover	2-10%
Strata 3 Dominance	*Dasypogon bromeliifolius*



Plot 110	
Easting / Longitude	383740
Northing / Latitude	6332495
Landform	Mid slope
Soil colour	Grey
Soil text	Clayey Sand
Soil depth	>50 cm
Surface gravel	0
Bare ground %	4
Aspect	NW
Fire Interval	>3 years
Slope	5-15
Impact	Low
Grazing	Low
Vegetation Condition	Excellent
Weed cover	0
Strata 1 Height	Trees
Strata 1 Cover	30-70%
Strata 1 Dominance	*Eucalyptus marginata, Agonis flexuosa, Banksia attenuata, Corymbia calophylla*
Strata 2 Height	Shrubs <1m
Strata 2 Cover	<2%
Strata 2 Dominance	*Hibbertia hypericoides*
Strata 3 Height	Herbs
Strata 3 Cover	10-30%
Strata 3 Dominance	*Dasypogon bromeliifolius, Xanthorrhea gracillis*



Plot 111	
Easting / Longitude	383551
Northing / Latitude	6332442
Landform	Upper slope
Soil colour	Grey
Soil text	Clayey Sand
Soil depth	>50 cm
Surface gravel	0
Bare ground %	4
Aspect	W
Fire Interval	>3 years
Slope	5-15
Impact	Low
Grazing	Low
Vegetation Condition	Excellent
Weed cover	0
Strata 1 Height	Trees
Strata 1 Cover	30-70%
Strata 1 Dominance	*Eucalyptus marginata, Banksia attenuata, Corymbia calophylla*
Strata 2 Height	Shrubs <1m
Strata 2 Cover	2-10%
Strata 2 Dominance	*Melaleuca thymoides*
Strata 3 Height	Herbs
Strata 3 Cover	10-30%
Strata 3 Dominance	*Dasypogon bromeliifolius, Xanthorrhea gracillis*



Plot 112	
Easting / Longitude	383458
Northing / Latitude	6332420
Landform	Mid slope
Soil colour	Grey
Soil text	Clayey Sand
Soil depth	>50 cm
Surface gravel	0
Bare ground %	4
Aspect	W
Fire Interval	>3 years
Slope	5-15
Impact	Moderate
Grazing	Moderate
Vegetation Condition	Good
Weed cover	1
Strata 1 Height	Trees
Strata 1 Cover	30-70%
Strata 1 Dominance	*Eucalyptus marginata, Banksia attenuata, Corymbia calophylla*
Strata 2 Height	Shrubs <1m
Strata 2 Cover	<2%
Strata 2 Dominance	*Leucopogon propinquus*
Strata 3 Height	Herbs
Strata 3 Cover	10-30%
Strata 3 Dominance	*Dasypogon bromeliifolius*



APPENDIX 2.

SUMMARY OF PEST PLANT CATEGORIES AND REQUIREMENTS

Source: https://www.agric.wa.gov.au/declared-plants/declared-plant-requirements

Declared pest category

The Western Australian Organism List (WAOL) contains information on the area(s) in which a pest is declared and the control and keeping categories to which it has been assigned in Western Australia (WA). Use the external links on this page to reach WAOL.

Requirements for land owners/occupiers and other persons

Species	Common name	Records
Requirements for organisms in **Category 1** (C1, Exclusion) and **Category 2** (C2, Eradication)	Introduction of the plant or its seeds into, or movement within this area is prohibited.	Mark the location of the pest in such a way that it can be found again.
	Report the presence or suspected presence of this pest in this area (1800 084 881).	C1 and C2 category pests are of high importance to WA and must be reported as a priority. Please report sightings to the Pest and Disease Information Service (1800 084 881).
	Supply or advertising supply of this pest into this area is prohibited.	-
	If the declared pest is found in this area control measures must be taken to destroy, prevent or eradicate it.	Treat to destroy all plants, prevent seed set and prevent the spread of seed or plant parts within and from the area on or in livestock, fodder, grain, vehicles and/or machinery. Treat prior to seed set each year.
	Ensure that any person conducting an activity on the land is aware that measures are required to be taken to control the declared pest.	Erect a biosecurity sign for persons conducting an activity on the land.
Requirements for organisms in **Category 3** (C3, Management)	Introduction of the plant or its seeds into this area is prohibited.	—
	Supply or advertising supply of this pest into this area is prohibited.	—
	The infested area must be managed in such a way that alleviates the impact, reduces the number or distribution or prevents or contains the spread of the declared pest in this area.	Treat to destroy all plants, prevent seed set and prevent the spread of seed or plant parts within and from the area on or in livestock, fodder, grain, vehicles and/or machinery. Treat prior to seed set each year.
	Ensure that any person conducting an activity on the land is aware that measures are required to be taken to control the declared pest.	Erect a biosecurity sign for persons conducting an activity on the land.

APPENDIX 3.

DATABASE SEARCH RESULTS SUMMARY

Australian Government
Department of the Environment and Energy

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

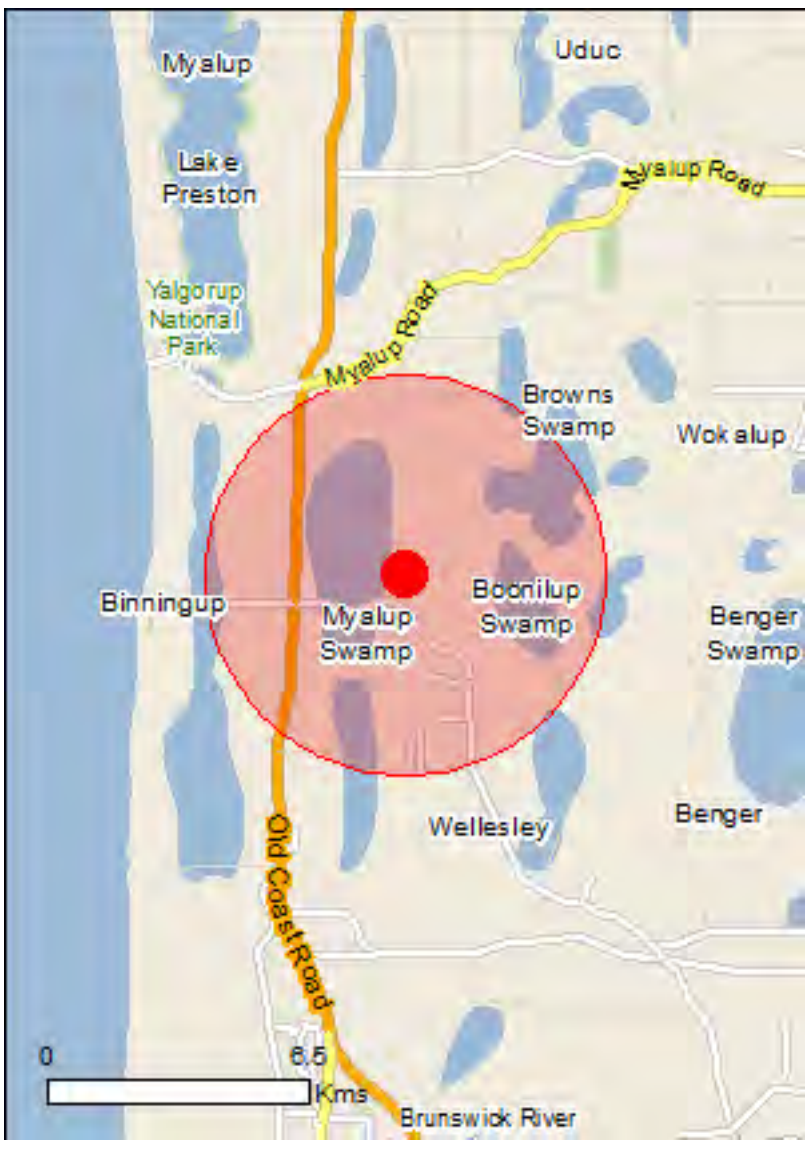
Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

Report created: 13/09/18 13:58:35

Summary
Details
- Matters of NES
- Other Matters Protected by the EPBC Act
- Extra Information

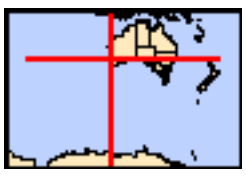
Caveat
Acknowledgements



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

Coordinates

Buffer: 5.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	1
Listed Threatened Species:	25
Listed Migratory Species:	12

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	18
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	2
Regional Forest Agreements:	None
Invasive Species:	26
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar) [Resource Information]

Name	Proximity
Peel-yalgorup system	Within 10km of Ramsar

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community likely to occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Calyptorhynchus banksii naso Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat known to occur within area
Calyptorhynchus baudinii Baudin's Cockatoo, Long-billed Black-Cockatoo [769]	Endangered	Breeding likely to occur within area
Calyptorhynchus latirostris Carnaby's Cockatoo, Short-billed Black-Cockatoo [59523]	Endangered	Species or species habitat known to occur within area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area
Limosa lapponica baueri Bar-tailed Godwit (baueri), Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat likely to occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Bar-tailed Godwit (menzbieri) [86432]	Critically Endangered	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area

Name	Status	Type of Presence
[Rostratula australis](#)		
Australian Painted-snipe, Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Fish		
[Galaxiella nigrostriata](#)		
Blackstriped Dwarf Galaxias, Black-stripe Minnow [88677]	Endangered	Species or species habitat known to occur within area
Mammals		
[Dasyurus geoffroii](#)		
Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat known to occur within area
[Pseudocheirus occidentalis](#)		
Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]	Critically Endangered	Species or species habitat known to occur within area
Other		
[Westralunio carteri](#)		
Carter's Freshwater Mussel, Freshwater Mussel [86266]	Vulnerable	Species or species habitat known to occur within area
Plants		
[Andersonia gracilis](#)		
Slender Andersonia [14470]	Endangered	Species or species habitat may occur within area
[Austrostipa bronwenae](#)		
[87808]	Endangered	Species or species habitat known to occur within area
[Caladenia huegelii](#)		
King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]	Endangered	Species or species habitat likely to occur within area
[Caladenia procera](#)		
Carbunup King Spider Orchid [68679]	Critically Endangered	Species or species habitat known to occur within area
[Diuris micrantha](#)		
Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat known to occur within area
[Diuris purdiei](#)		
Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat likely to occur within area
[Drakaea elastica](#)		
Glossy-leafed Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat known to occur within area
[Drakaea micrantha](#)		
Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat known to occur within area
[Synaphea sp. Fairbridge Farm (D. Papenfus 696)](#)		
Selena's Synaphea [82881]	Critically Endangered	Species or species habitat may occur within area
[Synaphea sp. Serpentine (G.R. Brand 103)](#)		
[86879]	Critically Endangered	Species or species habitat may occur within area

Listed Migratory Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
[Apus pacificus](#)		
Fork-tailed Swift [678]		Species or species habitat likely to occur

Name	Threatened	Type of Presence within area
[Ardenna carneipes](#) Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
[Motacilla cinerea](#) Grey Wagtail [642]		Species or species habitat may occur within area
Migratory Wetlands Species		
[Actitis hypoleucos](#) Common Sandpiper [59309]		Species or species habitat likely to occur within area
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]		Species or species habitat likely to occur within area
[Calidris canutus](#) Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
[Calidris melanotos](#) Pectoral Sandpiper [858]		Species or species habitat may occur within area
[Limosa lapponica](#) Bar-tailed Godwit [844]		Species or species habitat likely to occur within area
[Numenius madagascariensis](#) Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
[Pandion haliaetus](#) Osprey [952]		Species or species habitat likely to occur within area
[Tringa nebularia](#) Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
[Actitis hypoleucos](#) Common Sandpiper [59309]		Species or species habitat likely to occur within area
[Apus pacificus](#) Fork-tailed Swift [678]		Species or species habitat likely to occur within area
[Ardea alba](#) Great Egret, White Egret [59541]		Breeding known to occur within area
[Ardea ibis](#) Cattle Egret [59542]		Species or species habitat may occur within

Name	Threatened	Type of Presence
		area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat likely to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area
Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Species or species habitat likely to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
Thinornis rubricollis Hooded Plover [59510]		Species or species habitat known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Extra Information

State and Territory Reserves [Resource Information]

Name	State
NTWA Bushland covenant (0004)	WA
NTWA Bushland covenant (0095)	WA

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Streptopelia senegalensis Laughing Turtle-dove, Laughing Dove [781]		Species or species habitat likely to occur within area
Mammals		
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species

Name	Status	Type of Presence
		habitat likely to occur within area
Plants		
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Brachiaria mutica Para Grass [5879]		Species or species habitat may occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Genista linifolia Flax-leaved Broom, Mediterranean Broom, Flax Broom [2800]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Olea europaea Olive, Common Olive [9160]		Species or species habitat may occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-33.14257 115.74497

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

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NatureMap
Mapping Western Australia's biodiversity

NatureMap Species Report

Created By Guest user on 23/08/2018

Current Names Only	Yes
Core Datasets Only	Yes
Method	'By Circle'
Centre	115° 44' 54" E,33° 08' 43" S
Buffer	5km
Group By	Kingdom

Kingdom	Species	Records
Animalia	147	1044
Fungi	4	9
Plantae	150	219
TOTAL	**301**	**1272**

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
Animalia					
1.	24260	*Acanthiza apicalis (Broad-tailed Thornbill, Inland Thornbill)*			
2.	24261	*Acanthiza chrysorrhoa (Yellow-rumped Thornbill)*			
3.	24262	*Acanthiza inornata (Western Thornbill)*			
4.	24560	*Acanthorhynchus superciliosus (Western Spinebill)*			
5.	25535	*Accipiter cirrocephalus (Collared Sparrowhawk)*			
6.	42368	*Acritoscincus trilineatus (Western Three-lined Skink)*			
7.	25544	*Aegotheles cristatus (Australian Owlet-nightjar)*			
8.		*Aname tepperi*			
9.	24312	*Anas gracilis (Grey Teal)*			
10.	24315	*Anas rhynchotis (Australasian Shoveler)*			
11.	24316	*Anas superciliosa (Pacific Black Duck)*			
12.	47414	*Anhinga novaehollandiae (Australasian Darter)*			
13.	24561	*Anthochaera carunculata (Red Wattlebird)*			
14.	25670	*Anthus australis (Australian Pipit)*			
15.	24285	*Aquila audax (Wedge-tailed Eagle)*			
16.	25558	*Ardea ibis (Cattle Egret)*			
17.	41324	*Ardea modesta (great egret, white egret)*			
18.	24340	*Ardea novaehollandiae (White-faced Heron)*			
19.	24341	*Ardea pacifica (White-necked Heron)*			
20.	24318	*Aythya australis (Hardhead)*			
21.		*Barnardius zonarius*			
22.	24319	*Biziura lobata (Musk Duck)*			
23.	25716	*Cacatua sanguinea (Little Corella)*			
24.	25598	*Cacomantis flabelliformis (Fan-tailed Cuckoo)*			
25.	42307	*Cacomantis pallidus (Pallid Cuckoo)*			
26.	25717	*Calyptorhynchus banksii (Red-tailed Black-Cockatoo)*			
27.	24731	*Calyptorhynchus banksii subsp. naso (Forest Red-tailed Black Cockatoo)*		T	
28.	24734	*Calyptorhynchus latirostris (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo)*		T	
29.	48400	*Calyptorhynchus sp. (white-tailed black cockatoo)*		T	
30.	24086	*Cercartetus concinnus (Western Pygmy-possum, Mundarda)*			
31.	24186	*Chalinolobus gouldii (Gould's Wattled Bat)*			
32.	24321	*Chenonetta jubata (Australian Wood Duck, Wood Duck)*			
33.	24980	*Christinus marmoratus (Marbled Gecko)*			
34.	25601	*Chrysococcyx lucidus (Shining Bronze Cuckoo)*			
35.	24288	*Circus approximans (Swamp Harrier)*			
36.	25675	*Colluricincla harmonica (Grey Shrike-thrush)*			
37.	25568	*Coracina novaehollandiae (Black-faced Cuckoo-shrike)*			
38.	25592	*Corvus coronoides (Australian Raven)*			
39.	24671	*Coturnix pectoralis (Stubble Quail)*			
40.	25595	*Cracticus tibicen (Australian Magpie)*			
41.	25596	*Cracticus torquatus (Grey Butcherbird)*			
42.	25398	*Crinia georgiana (Quacking Frog)*			

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
43.	25399	*Crinia glauerti (Clicking Frog)*			
44.	25400	*Crinia insignifera (Squelching Froglet)*			
45.	30893	*Cryptoblepharus buchananii*			
46.	25047	*Ctenotus impar*			
47.	25049	*Ctenotus labillardieri*			
48.	24322	*Cygnus atratus (Black Swan)*			
49.	30901	*Dacelo novaeguineae (Laughing Kookaburra)*	Y		
50.	25673	*Daphoenositta chrysoptera (Varied Sittella)*			
51.	24092	*Dasyurus geoffroii (Chuditch, Western Quoll)*		T	
52.	24470	*Dromaius novaehollandiae (Emu)*			
53.	25100	*Egernia napoleonis*			
54.		*Egretta novaehollandiae*			
55.		*Elanus axillaris*			
56.		*Eolophus roseicapillus*			
57.	25622	*Falco cenchroides (Australian Kestrel, Nankeen Kestrel)*			
58.	25623	*Falco longipennis (Australian Hobby)*			
59.	24189	*Falsistrellus mackenziei (Western False Pipistrelle, Western Falsistrelle)*		P4	
60.	24041	*Felis catus (Cat)*	Y		
61.	25727	*Fulica atra (Eurasian Coot)*			
62.	24761	*Fulica atra subsp. australis (Eurasian Coot)*			
63.	34027	*Galaxiella nigrostriata (Black-stripe Minnow, black-striped dwarf galaxias)*		T	
64.	25530	*Gerygone fusca (Western Gerygone)*			
65.	24443	*Grallina cyanoleuca (Magpie-lark)*			
66.	24487	*Haematopus longirostris (Pied Oystercatcher)*			
67.	24295	*Haliastur sphenurus (Whistling Kite)*			
68.	24296	*Hamirostra isura (Square-tailed Kite)*			
69.	25410	*Heleioporus eyrei (Moaning Frog)*			
70.	25119	*Hemiergis quadrilineata*			
71.	47965	*Hieraaetus morphnoides (Little Eagle)*			
72.	25734	*Himantopus himantopus (Black-winged Stilt)*			
73.	24491	*Hirundo neoxena (Welcome Swallow)*			
74.	25133	*Lerista elegans*			
75.	25147	*Lerista lineata (Perth Slider, Lined Skink)*		P3	
76.	25005	*Lialis burtonis*			
77.	25661	*Lichmera indistincta (Brown Honeyeater)*			
78.	25415	*Limnodynastes dorsalis (Western Banjo Frog)*			
79.	25378	*Litoria adelaidensis (Slender Tree Frog)*			
80.	25388	*Litoria moorei (Motorbike Frog)*			
81.	24132	*Macropus fuliginosus (Western Grey Kangaroo)*			
82.	25654	*Malurus splendens (Splendid Fairy-wren)*			
83.	25184	*Menetia greyii*			
84.	24598	*Merops ornatus (Rainbow Bee-eater)*			
85.		*Microcarbo melanoleucos*			
86.		*Missulena granulosa*			
87.	25191	*Morethia lineoocellata*			
88.	24223	*Mus musculus (House Mouse)*	Y		
89.	25248	*Neelaps bimaculatus (Black-naped Snake)*			
90.	24738	*Neophema elegans (Elegant Parrot)*			
91.	25564	*Nycticorax caledonicus (Rufous Night Heron)*			
92.	24194	*Nyctophilus geoffroyi (Lesser Long-eared Bat)*			
93.	24407	*Ocyphaps lophotes (Crested Pigeon)*			
94.	24085	*Oryctolagus cuniculus (Rabbit)*	Y		
95.	25680	*Pachycephala rufiventris (Rufous Whistler)*			
96.	24693	*Pachyptila desolata (Antarctic Prion)*			
97.	25253	*Parasuta gouldii*			
98.	25681	*Pardalotus punctatus (Spotted Pardalote)*			
99.	25682	*Pardalotus striatus (Striated Pardalote)*			
100.	24648	*Pelecanus conspicillatus (Australian Pelican)*			
101.	48061	*Petrochelidon nigricans (Tree Martin)*			
102.	48066	*Petroica boodang (Scarlet Robin)*			
103.	25698	*Phalacrocorax melanoleucos (Little Pied Cormorant)*			
104.	24667	*Phalacrocorax sulcirostris (Little Black Cormorant)*			
105.	25699	*Phalacrocorax varius (Pied Cormorant)*			
106.	24409	*Phaps chalcoptera (Common Bronzewing)*			
107.	48070	*Phascogale tapoatafa subsp. wambenger (South-western Brush-tailed Phascogale, Wambenger)*		S	
108.	24596	*Phylidonyris novaehollandiae (New Holland Honeyeater)*			
109.	24841	*Platalea flavipes (Yellow-billed Spoonbill)*			
110.	25720	*Platycercus icterotis (Western Rosella)*			
111.	24747	*Platycercus spurius (Red-capped Parrot)*			

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
112.	25721	*Platycercus zonarius (Australian Ringneck, Ring-necked Parrot)*			
113.	25703	*Podargus strigoides (Tawny Frogmouth)*			
114.	24907	*Pogona minor subsp. minor (Dwarf Bearded Dragon)*			
115.	24681	*Poliocephalus poliocephalus (Hoary-headed Grebe)*			
116.	25722	*Polytelis anthopeplus (Regent Parrot)*			
117.	25731	*Porphyrio porphyrio (Purple Swamphen)*			
118.	24767	*Porphyrio porphyrio subsp. bellus (Purple Swamphen)*			
119.	24166	*Pseudocheirus occidentalis (Western Ringtail Possum, ngwayir)*		T	
120.	25511	*Pseudonaja affinis (Dugite)*			
121.	25433	*Pseudophryne guentheri (Crawling Toadlet)*			
122.		*Purpureicephalus spurius*			
123.	24245	*Rattus rattus (Black Rat)*	Y		
124.	24776	*Recurvirostra novaehollandiae (Red-necked Avocet)*			
125.	48096	*Rhipidura albiscapa (Grey Fantail)*			
126.	25614	*Rhipidura leucophrys (Willie Wagtail)*			
127.	25534	*Sericornis frontalis (White-browed Scrubwren)*			
128.	30948	*Smicrornis brevirostris (Weebill)*			
129.	25597	*Strepera versicolor (Grey Currawong)*			
130.	25590	*Streptopelia senegalensis (Laughing Turtle-Dove)*	Y		
131.	24259	*Sus scrofa (Pig)*	Y		
132.	25705	*Tachybaptus novaehollandiae (Australasian Grebe, Black-throated Grebe)*			
133.	24682	*Tachybaptus novaehollandiae subsp. novaehollandiae (Australasian Grebe, Black-throated Grebe)*			
134.	24331	*Tadorna tadornoides (Australian Shelduck, Mountain Duck)*			
135.	48135	*Thinornis rubricollis (Hooded Plover, Hooded Dotterel)*		P4	
136.	24845	*Threskiornis spinicollis (Straw-necked Ibis)*			
137.	25519	*Tiliqua rugosa*			
138.	25207	*Tiliqua rugosa subsp. rugosa*			
139.	25549	*Todiramphus sanctus (Sacred Kingfisher)*			
140.	24158	*Trichosurus vulpecula subsp. vulpecula (Common Brushtail Possum)*			
141.	48147	*Turnix varius (Painted Button-quail)*			
142.	24386	*Vanellus tricolor (Banded Lapwing)*			
143.	25218	*Varanus gouldii (Bungarra or Sand Monitor)*			
144.	25225	*Varanus rosenbergi (Heath Monitor)*			
145.	24206	*Vespadelus regulus (Southern Forest Bat)*			
146.	24040	*Vulpes vulpes (Red Fox)*	Y		
147.	25765	*Zosterops lateralis (Grey-breasted White-eye, Silvereye)*			
Fungi					
148.	27691	*Cladonia ramulosa*			
149.	27748	*Flavoparmelia rutidota*			
150.		*Phytophthora cinnamomi*			
151.	28087	*Usnea inermis*			
Plantae					
152.	15466	*Acacia applanata*			
153.	3339	*Acacia flagelliformis*		P4	
154.	11611	*Acacia lasiocarpa var. lasiocarpa*			
155.	3482	*Acacia paradoxa (Kangaroo Thorn)*	Y		
156.	15481	*Acacia pulchella var. glaberrima*			
157.	15482	*Acacia pulchella var. goadbyi*			
158.	30036	*Acacia saligna subsp. stolonifera*			
159.	3537	*Acacia semitrullata*		P4	
160.	3557	*Acacia stenoptera (Narrow Winged Wattle)*			
161.	1790	*Adenanthos meisneri*			
162.	1791	*Adenanthos obovatus (Basket Flower)*			
163.	7820	*Ambrosia artemisiifolia (Annual Ragweed, Bitterweed, Hay-feverweed, Hog-weed)*	Y		
164.	3688	*Aotus gracillima*			
165.	7851	*Asteridea pulverulenta (Common Bristle Daisy)*			
166.	6323	*Astroloma ciliatum (Candle Cranberry)*			
167.	38480	*Austrostipa bronwenae*		T	
168.	17233	*Austrostipa campylachne*			
169.	1800	*Banksia attenuata (Slender Banksia, Piara)*			
170.	1822	*Banksia ilicifolia (Holly-leaved Banksia)*			
171.	3165	*Billardiera variifolia*			
172.	11612	*Boronia capitata subsp. gracilis*		P3	
173.	16633	*Boronia juncea subsp. juncea*		P1	
174.	4438	*Boronia ramosa*			
175.	3710	*Bossiaea eriocarpa (Common Brown Pea)*			
176.	244	*Briza maxima (Blowfly Grass)*	Y		
177.	12770	*Burchardia congesta*			

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
178.	1276	*Caesia micrantha (Pale Grass Lily)*			
179.	1592	*Caladenia flava (Cowslip Orchid)*			
180.	15348	*Caladenia flava subsp. flava*			
181.	18038	*Caladenia procera*		T	
182.	13862	*Caladenia speciosa*		P4	
183.	5460	*Calytrix fraseri (Pink Summer Calytrix)*			
184.	1162	*Cartonema philydroides*			
185.	13489	*Cerastium pumilum*	Y		
186.	1280	*Chamaescilla corymbosa (Blue Squill)*			
187.	10804	*Clematis linearifolia*			
188.	6348	*Conostephium pendulum (Pearl Flower)*			
189.	1418	*Conostylis aculeata (Prickly Conostylis)*			
190.	1436	*Conostylis juncea*			
191.	1438	*Conostylis laxiflora*			
192.	13354	*Craspedia variabilis*			
193.	16245	*Cyathochaeta teretifolia*		P3	
194.	7454	*Dampiera linearis (Common Dampiera)*			
195.	1218	*Dasypogon bromeliifolius (Pineapple Bush)*			
196.	3834	*Daviesia polyphylla*			
197.	3863	*Dillwynia dillwynioides*		P3	
198.	19649	*Disa bracteata*	Y		
199.	11049	*Diuris corymbosa*			
200.	10796	*Diuris drummondii (Tall Donkey Orchid)*		T	
201.	48253	*Diuris porphyrochila*			
202.	46858	*Diuris tinctoria*			Y
203.	1639	*Drakaea elastica (Glossy-leaved Hammer Orchid)*		T	
204.	13635	*Drakaea micrantha*		T	
205.	13209	*Drosera marchantii subsp. marchantii*			
206.	3112	*Drosera myriantha (Star Rainbow)*			
207.	3118	*Drosera pallida (Pale Rainbow)*			
208.	3131	*Drosera stolonifera (Leafy Sundew)*			
209.	11105	*Echinochloa crus-galli*	Y		
210.	332	*Echinochloa frumentacea (Siberian Millet)*	Y		
211.	1643	*Elythranthera brunonis (Purple Enamel Orchid)*			
212.	1644	*Elythranthera emarginata (Pink Enamel Orchid)*			
213.	5708	*Eucalyptus marginata (Jarrah, Djara)*			
214.	13547	*Eucalyptus marginata subsp. marginata (Jarrah)*			
215.	835	*Evandra pauciflora*			
216.	894	*Fimbristylis velata*			
217.	3957	*Gompholobium tomentosum (Hairy Yellow Pea)*			
218.	5135	*Hibbertia hypericoides (Yellow Buttercups)*			
219.	45534	*Hibbertia hypericoides subsp. hypericoides*			
220.	5162	*Hibbertia racemosa (Stalked Guinea Flower)*			
221.	5176	*Hibbertia vaginata*			
222.	6222	*Homalosciadium homalocarpum*			
223.	3968	*Hovea trisperma (Common Hovea)*			
224.	12859	*Hovea trisperma var. trisperma*			
225.	12741	*Hyalosperma cotula*			
226.	5216	*Hybanthus calycinus (Wild Violet)*			
227.	8086	*Hypochaeris glabra (Smooth Catsear)*	Y		
228.	1070	*Hypolaena exsulca*			
229.	16836	*Hypolaena viridis*			
230.	917	*Isolepis marginata (Coarse Club-rush)*			
231.	5832	*Kunzea ericifolia (Spearwood, Pondil)*			
232.	5038	*Lasiopetalum membranaceum*		P3	
233.	1309	*Laxmannia squarrosa*			
234.	925	*Lepidosperma angustatum*			
235.	1653	*Leporella fimbriata (Hare Orchid)*			
236.	46375	*Leptocarpus decipiens*			
237.	46382	*Leptocarpus roycei*			
238.	6445	*Leucopogon squarrosus*			
239.	6454	*Leucopogon verticillatus (Tassel Flower)*			
240.	1223	*Lomandra caespitosa (Tufted Mat Rush)*			
241.	1228	*Lomandra hermaphrodita*			
242.	1232	*Lomandra micrantha (Small-flower Mat-rush)*			
243.	1234	*Lomandra nigricans*			
244.	1243	*Lomandra sericea (Silky Mat Rush)*			
245.	1246	*Lomandra suaveolens*			
246.	1198	*Luzula meridionalis (Field Woodrush)*			
247.	1097	*Lyginia barbata*			

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
248.	5281	*Lythrum hyssopifolia (Lesser Loosestrife)*	Y		
249.	85	*Macrozamia riedlei (Zamia, Djiridji)*			
250.	18598	*Melaleuca systena*			
251.	5978	*Melaleuca teretifolia (Banbar)*			
252.	5980	*Melaleuca thymoides*			
253.	485	*Microlaena stipoides (Weeping Grass)*			
254.	15419	*Microtis media subsp. media*			
255.	8106	*Millotia tenuifolia (Soft Millotia)*			
256.	6201	*Myriophyllum verrucosum (Red Water Milfoil)*			
257.	8133	*Olearia elaeophila*			
258.	46316	*Orianthera serpyllifolia subsp. angustifolia*			
259.	1762	*Parietaria debilis (Pellitory)*			
260.	533	*Paspalum vaginatum (Salt Water Couch)*			
261.	1550	*Patersonia occidentalis (Purple Flag, Koma)*			
262.	4346	*Pelargonium littorale*			
263.	6006	*Pericalymma ellipticum (Swamp Teatree)*			
264.	2299	*Petrophile linearis (Pixie Mops)*			
265.	18529	*Philotheca spicata (Pepper and Salt)*			
266.	1478	*Phlebocarya ciliata*			
267.	6249	*Platysace compressa (Tapeworm Plant)*			
268.	4524	*Platytheca galioides*			
269.	8175	*Podolepis gracilis (Slender Podolepis)*			
270.	4691	*Poranthera microphylla (Small Poranthera)*			
271.		*Pterostylis aff. nana*			
272.	10875	*Pterostylis concava*			
273.	1693	*Pterostylis recurva (Jug Orchid)*			
274.	12217	*Pterostylis sanguinea*			
275.	1698	*Pterostylis vittata (Banded Greenhood)*			
276.	2440	*Rumex pulcher (Fiddle Dock)*	Y		
277.	40426	*Rytidosperma occidentale*			
278.	20063	*Salix babylonica*	Y		
279.	7595	*Scaevola anchusifolia*			
280.	7602	*Scaevola calliptera*			
281.	1020	*Schoenus sublateralis*			
282.	7037	*Solanum symonii*			
283.	1312	*Sowerbaea laxiflora (Purple Tassels)*			
284.	2316	*Stirlingia latifolia (Blueboy)*			
285.	7693	*Stylidium brunonianum (Pink Fountain Triggerplant)*			
286.	7798	*Stylidium schoenoides (Cow Kicks)*			
287.	7799	*Stylidium spathulatum (Creamy Triggerplant)*			
288.	48341	*Tetratheca hirsuta subsp. viminea*			
289.	10856	*Thelymitra benthamiana (Leopard Orchid)*			
290.	1338	*Thysanotus manglesianus (Fringed Lily)*			
291.	1343	*Thysanotus patersonii*			
292.	6280	*Trachymene pilosa (Native Parsnip)*			
293.	1361	*Tricoryne elatior (Yellow Autumn Lily)*			
294.	4292	*Trifolium campestre (Hop Clover)*	Y		
295.	44444	*Tripterococcus sp. Brachylobus (A.S. George 14234)*		P4	
296.	8255	*Ursinia anthemoides (Ursinia)*	Y		
297.	33537	*Vallisneria australis*	Y		
298.	6101	*Verticordia nitens (Morrison Featherflower, Kodjeningara)*			
299.	7389	*Wahlenbergia preissii*			
300.	8282	*Waitzia suaveolens (Fragrant Waitzia)*			
301.	6289	*Xanthosia huegelii*			

Conservation Codes
T - Rare or likely to become extinct
X - Presumed extinct
IA - Protected under international agreement
S - Other specially protected fauna
1 - Priority 1
2 - Priority 2
3 - Priority 3
4 - Priority 4
5 - Priority 5

[1] For NatureMap's purposes, species flagged as endemic are those whose records are wholely contained within the search area. Note that only those records complying with the search criterion are included in the calculation. For example, if you limit records to those from a specific datasource, only records from that datasource are used to determine if a species is restricted to the query area.

APPENDIX 4.

VASCULAR PLANT SPECIES RECORDED DURING FIELD SURVEY

(*represents weed species)

Family		Taxon	Conservation Status
Anarthriaceae		*Lyginia imberbis*	
Apiaceae		*Platysace filiformis*	
		Daucus glochidiatus	
Araliaceae		*Trachymene pilosa*	
Asparagaceae		*Lomandra caespitosa*	
		Lomandra hermaphrodita	
		Lomandra micrantha subsp. *micrantha*	
		Lomandra nigricans	
		Lomandra sericea	
		Lomandra suaveolens	
		Sowerbaea laxiflora	
		Thysanotus manglesianus	
Asphodelaceae	*	*Asphodelus fistulosus*	
Asteraceae	*	*Arctotheca calendula*	
	*	*Cotula turbinata*	
	*	*Hypochaeris glabra*	
		Lagenophora huegelii	
		Millotia tenuifolia ?var. *laevis*	P2
		Quinetia urvillei	
		Rhodanthe citrina	
	*	*Ursinia anthemoides*	
Caryophyllaceae	*	*Petrorhagia dubia*	
Colchicaceae		*Burchardia congesta*	
Cyperaceae		*Isolepis marginata*	
		Isotropis cuneifolia	
		Lepidosperma pubisquameum	
		Lepidosperma squamatum	
Dasypogonaceae		*Dasypogon bromeliifolius*	
Dilleniaceae		*Hibbertia hypericoides* subsp. *hypericoides*	
		Hibbertia racemosa	
Droseraceae		*Drosera ?macrantha*	
		Drosera bulbosa	

Family		Taxon	Conservation Status
		Drosera menziesii	
		Drosera stolonifera	
Elaeocarpaceae		*Tetratheca hirsuta* subsp. *viminea*	
Ericaceae		*Brachyloma preissii*	
		Leucopogon propinquus	
		Leucopogon racemulosus	
Fabaceae		*Acacia semitrullata*	P4
		Bossiaea eriocarpa	
		Gompholobium tomentosum	
		Jacksonia furcellata	
		Kennedia prostrata	
Haemodoraceae		*Conostylis aculeata* subsp. *preissii*	
		Conostylis juncea	
		Conostylis setigera	
		Caesia micrantha	
		Dianella revoluta var. *divaricata*	
		Tricoryne elatior	
Iridaceae		*Patersonia occidentalis*	
Lamiaceae		*Hemiandra pungens*	
Malvaceae		*Lasiopetalum ?membranaceum*	P3
Myrtaceae		*Agonis flexuosa*	
		Corymbia calophylla	
		Eucalyptus marginata	
		Kunzea glabrescens	
		Melaleuca thymoides	
Orchidaceae		*Caladenia arenicola*	
		Caladenia flava	
		Elythranthera brunonis	
		Pterostylis nana	
		Pterostylis sp.	
		Pyrorchis nigricans	
Phyllanthaceae		*Phyllanthus calycinus*	
Poaceae	*	*Briza maxima*	
	*	*Ehrharta longiflora*	
		Tetrarrhena laevis	
	*	*Vulpia bromoides*	

Family	Taxon	Conservation Status
Proteaceae	*Banksia attenuata*	
	Banksia grandis	
	Petrophile linearis	
Restionaceae	*Desmocladus fasciculatus*	
	Desmocladus flexuosus	
	Hypolaena exsulca	
Rubiaceae	*Opercularia hispidula*	
Rutaceae	*Philotheca spicata*	
Stylidiaceae	*Stylidium brunonianum*	
	Stylidium piliferum	
Xanthorrhoeaceae	*Chamaescilla corymbosa*	
	Xanthorrhoea gracilis	
Zamiaceae	*Macrozamia riedlei*	

APPENDIX 5.

MATRIX: SPECIES x QUADRAT

(+ represents presence)

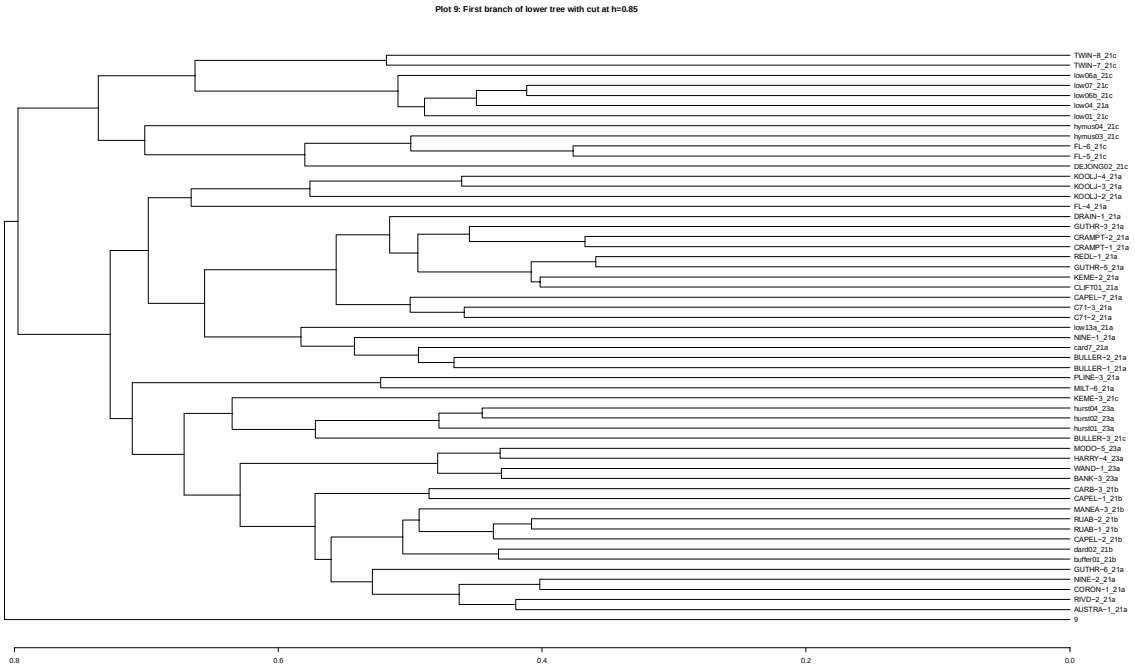
Name	Plot 8	Plot 9	Plot 10	Plot 11	Plot 109	Plot 110	Plot 111	Plot 112
Acacia semitrullata (P4)						+		
Agonis flexuosa	+	+		+	+	+		
Arctotheca calendula								+
Asphodelus fistulosus								+
Banksia attenuata	+	+	+	+	+	+	+	+
Banksia grandis			+			+		
Bossiaea eriocarpa	+	+	+		+	+		
Brachyloma preissii					+	+		
Briza maxima		+	+	+		+		
Burchardia congesta		+	+	+	+	+	+	
Caesia micrantha							+	
Caladenia flava	+	+	+	+	+	+	+	+
Chamaescilla corymbosa	+			+	+	+	+	+
+Conostylis aculeata subsp preissii	+	+			+		+	+
Conostylis juncea					+	+		
Conostylis setigera	+	+	+					
Corymbia calophylla			+	+		+	+	+
Cotula turbinata								+
+Dasypogon bromeliifolius		+	+	+	+	+	+	+
Daucus glochidiatus				+				
Desmocladus fasciculatus							+	
Desmocladus flexuosus				+	+	+	+	+
Dianella revoluta var divaricata			+		+			
Drosera ?macrantha						+	+	

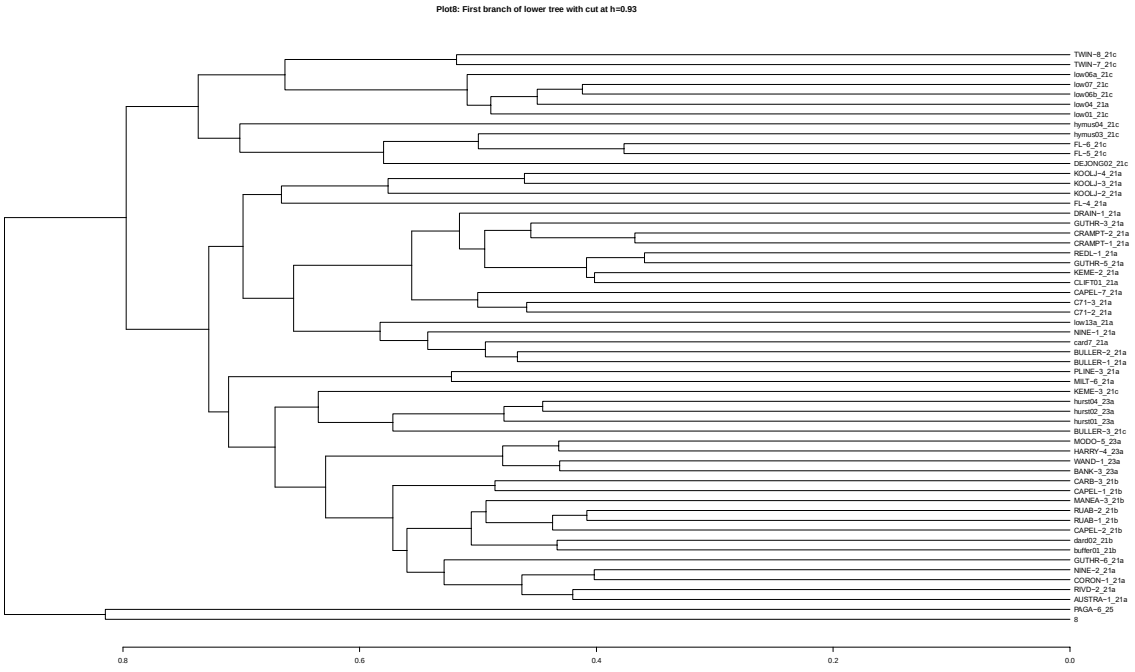
Name	Plot 8	Plot 9	Plot 10	Plot 11	Plot 109	Plot 110	Plot 111	Plot 112
Drosera bulbosa	+	+				+		
Drosera menziesii				+				
Drosera stolonifera	+	+	+	+	+	+	+	+
Ehrharta longiflora							+	+
Elythranthera brunonis		+	+	+				
Eucalyptus marginata	+	+	+	+	+	+	+	+
Gompholobium tomentosum					+	+		
Hemiandra pungens					+			
Hibbertia hypericoides subsp hypericoides	+	+	+	+	+	+	+	
Hibbertia racemosa	+				+	+	+	+
Hypochaeris glabra	+	+	+	+	+	+		+
Hypolaena exsulca	+		+		+		+	
Isolepis marginata				+				+
Isotropis cuneifolia	+	+			+		+	
Jacksonia furcellata			+					
Kennedia prostrata							+	
Kunzea glabrescens	+							
Lagenophora huegelii	+	+	+	+	+	+	+	
Lasiopatalum ?membranaceum (P3)					+			
Lepidosperma pubisquameum					+	+		
Lepidosperma squamatum	+		+					
Leucopogon propinquus							+	+
Leucopogon racemulosus				+		+	+	
Lomandra caespitosa								+
Lomandra hermaphrodita					+			
Lomandra micrantha subsp micrantha								+
Lomandra nigricans					+			
Lomandra sericea							+	+

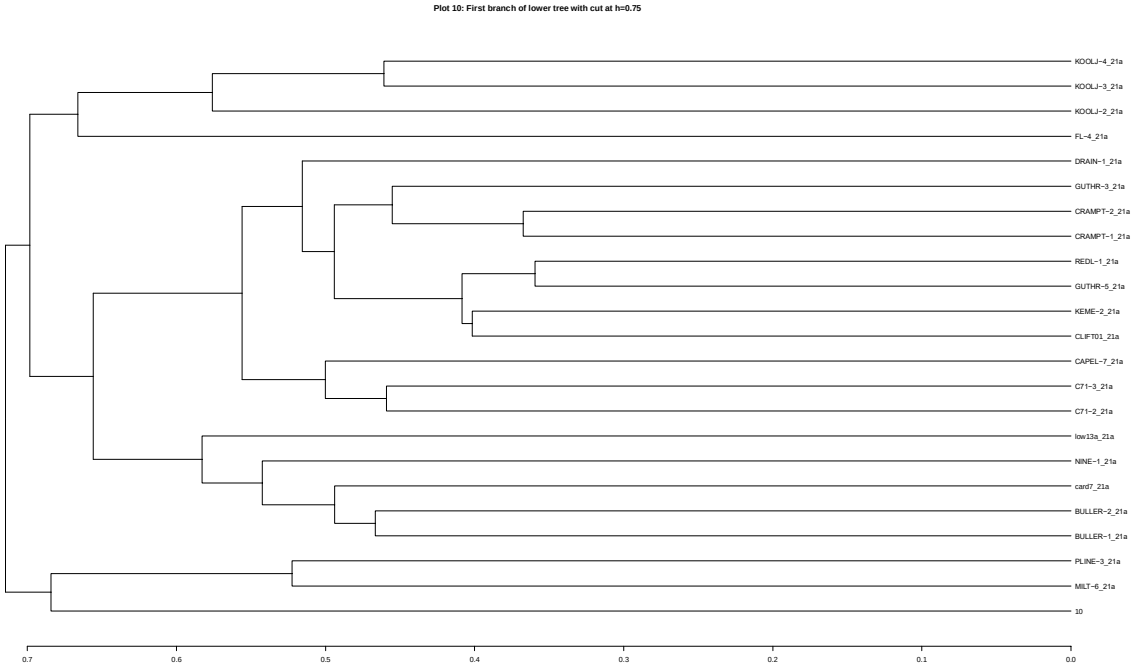
Name	Plot 8	Plot 9	Plot 10	Plot 11	Plot 109	Plot 110	Plot 111	Plot 112
Lomandra suaveolens	+		+		+	+		
Lyginia imberbis					+	+	+	+
Macrozamia riedlei			+				+	
Melaleuca thymoides	+	+	+	+	+	+	+	+
Millotia tenuifolia ?var laevis (P2)					+			
Opercularia hispidula	+	+	+		+	+	+	
Patersonia occidentalis				+	+			+
Petrophile linearis		+			+			
Petrorhagia dubia								+
Philotheca spicata	+	+	+	+	+	+	+	
Phyllanthus calycinus		+	+	+	+		+	
Platysace filiformis				+				
Pterostylis nana							+	+
Pterostylis sp						+		
Pyrorchis nigricans					+		+	
Quinetia urvillei					+	+		+
Rhodanthe sp					+	+		
Sowerbaea laxiflora	+	+	+	+			+	+
Stylidium brunonianum	+	+	+		+			
Stylidium piliferum	+				+			
Tetrarrhena laevis							+	
Tetratheca hirsuta subsp. viminea			+			+		
Thysanotus manglesianus				+	+	+		
Trachymene pilosa		+	+	+	+	+	+	+
Tricoryne elatior							+	+
Ursinia anthemoides					+	+	+	+
Vulpia bromoides						+		
Xanthorrhoea gracilis	+	+	+	+	+	+	+	

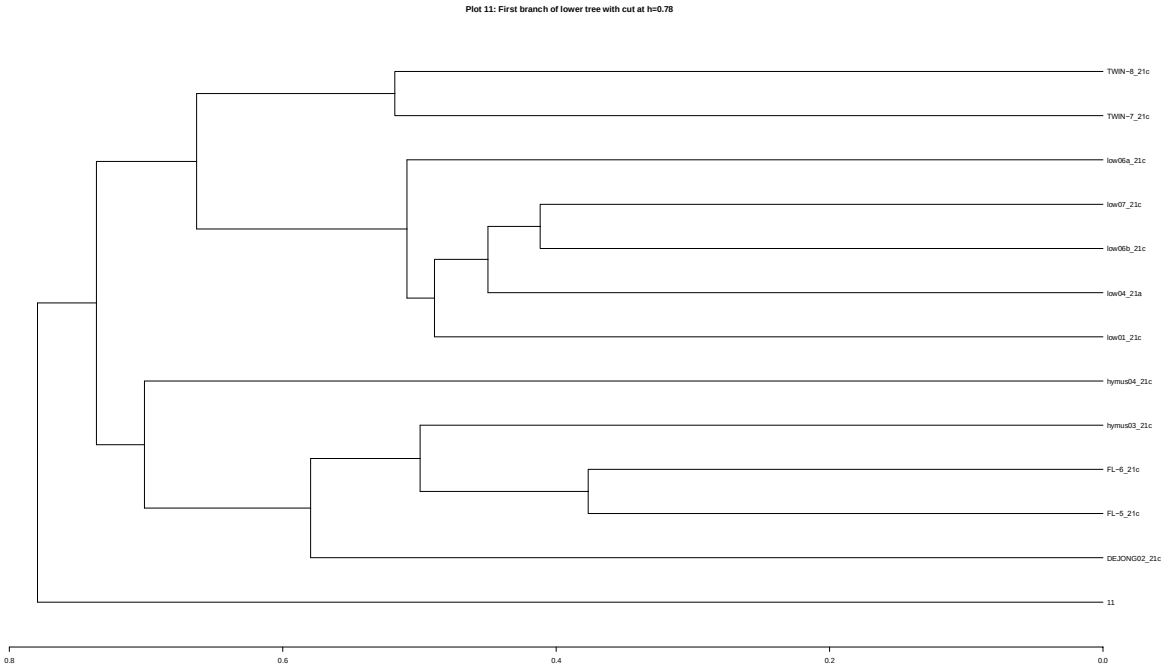
APPENDIX 6.

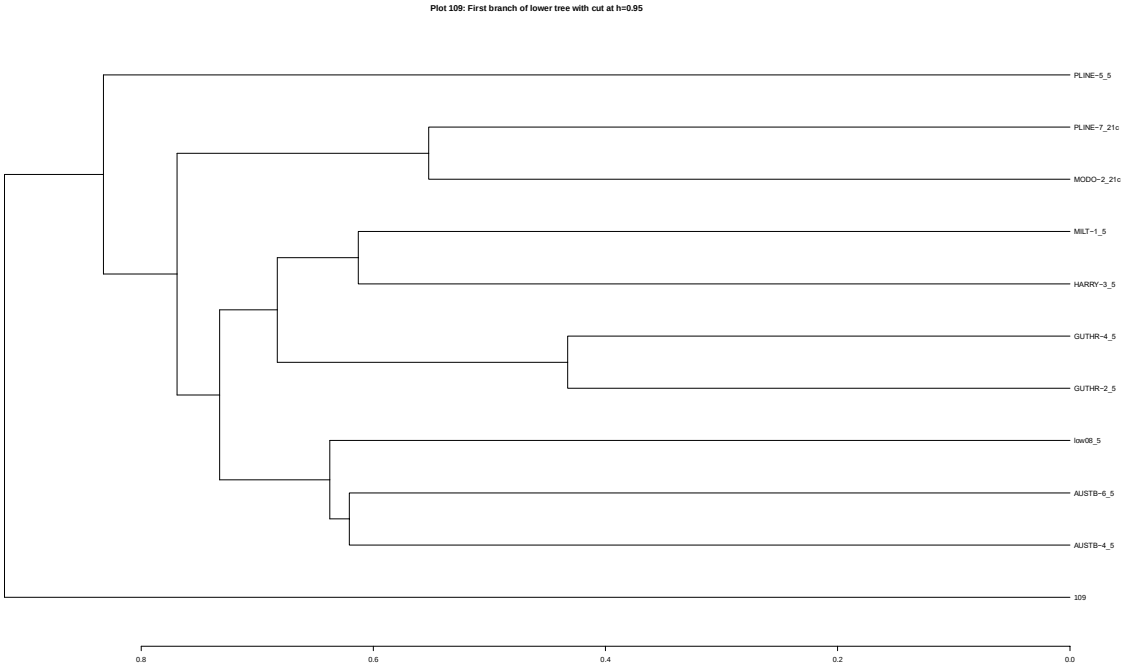
DENDROGRAM OUTPUT FROM FCT ANALYSIS

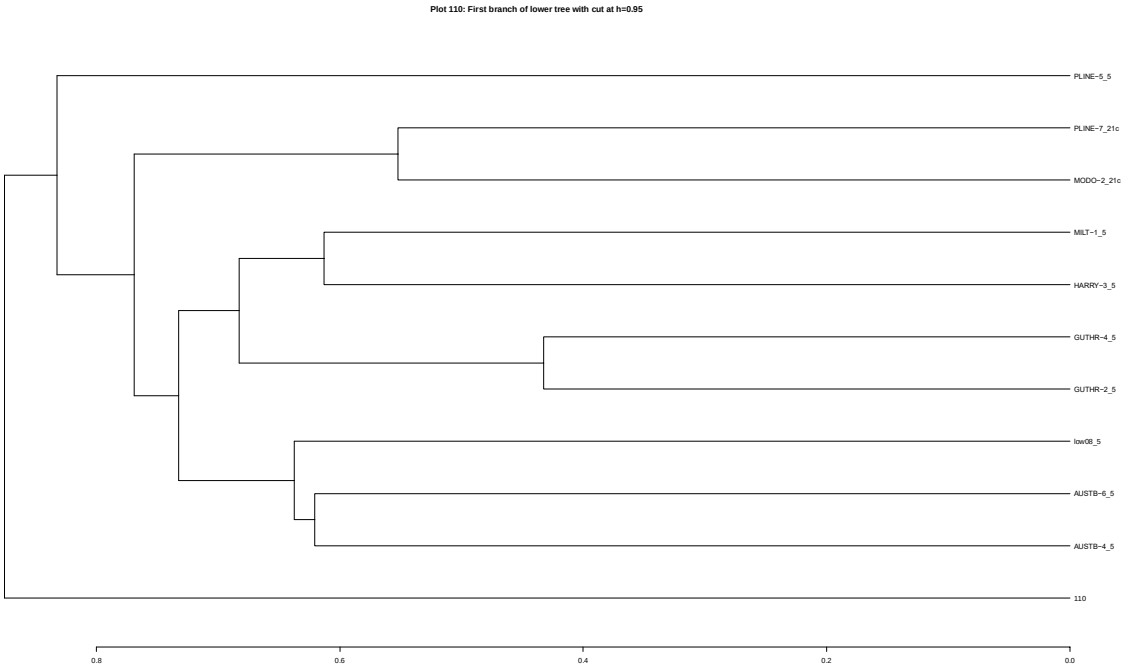


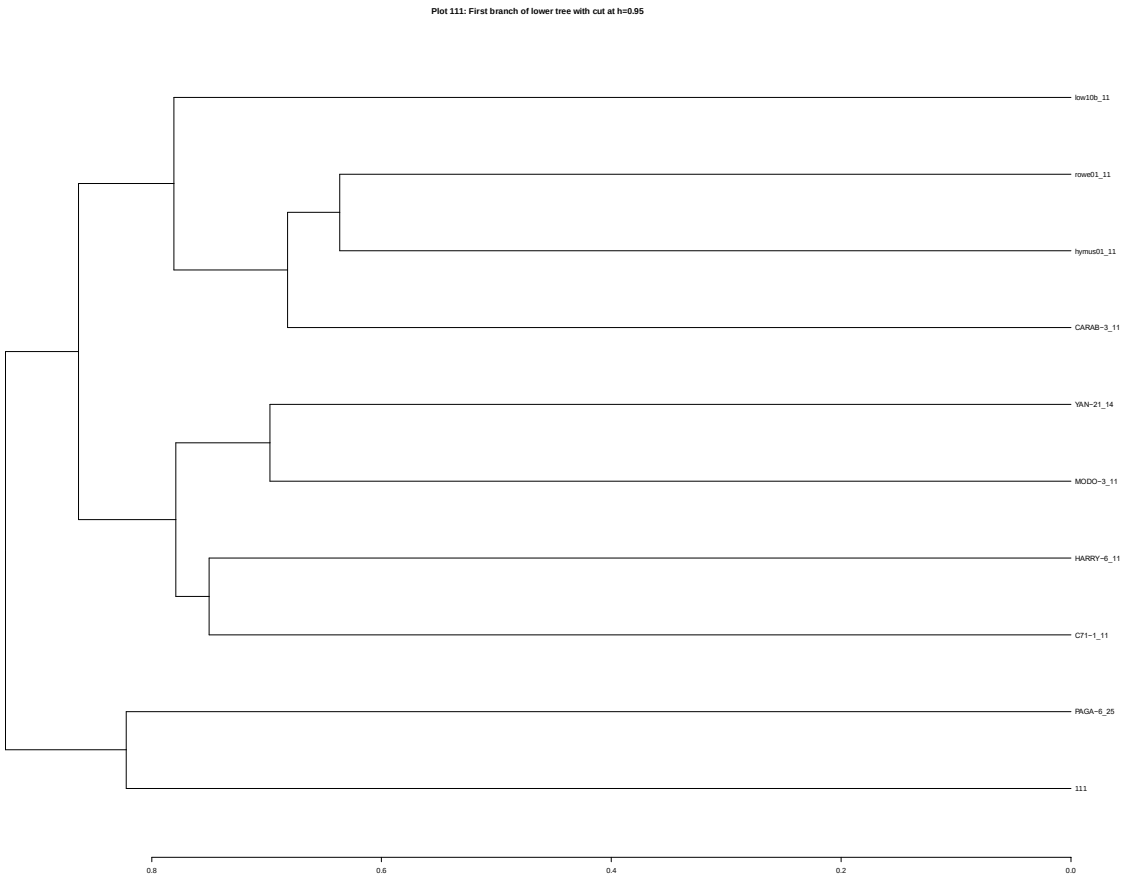


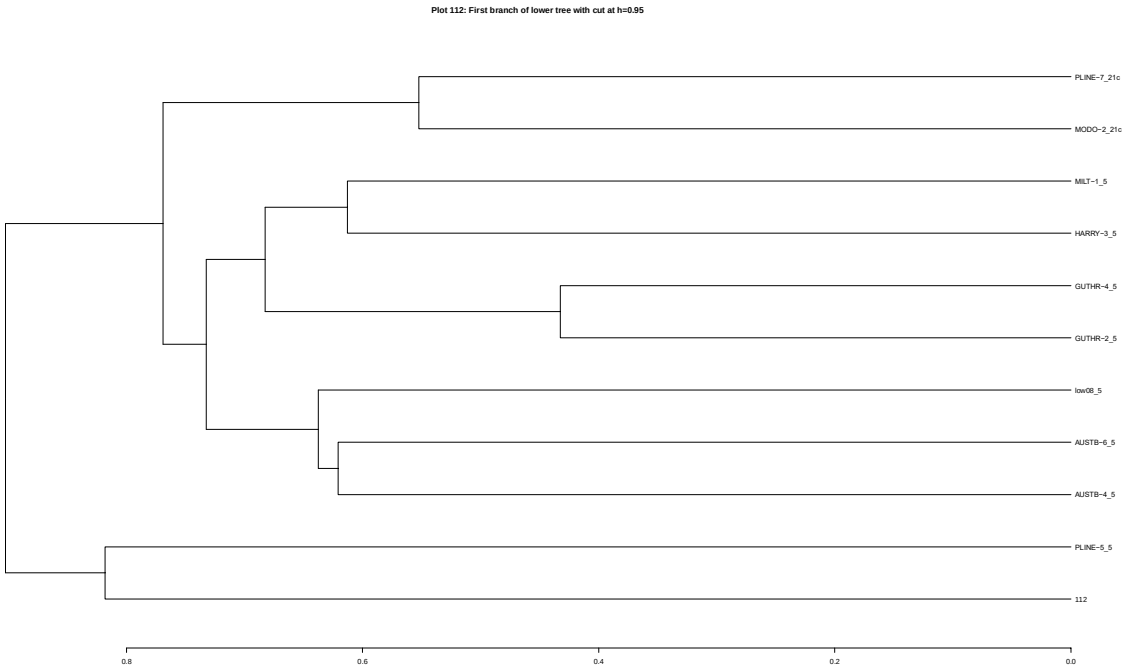

Plot 10: First branch of lower tree with cut at h=0.75
KOOLJ−4_21a
KOOLJ−3_21a
KOOLJ−2_21a
FL−4_21a
DRAIN−1_21a
GUTHR−3_21a
CRAMPT−2_21a
CRAMPT−1_21a
REDL−1_21a
GUTHR−5_21a
KEME−2_21a
CLIFT01_21a
CAPEL−7_21a
C71−3_21a
C71−2_21a
low13a_21a
NINE−1_21a
card7_21a
BULLER−2_21a
BULLER−1_21a
PLINE−3_21a
MILT−6_21a
10
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0


Plot 11: First branch of lower tree with cut at h=0.78
TWIN−8_21c
TWIN−7_21c
low06a_21c
low07_21c
low06b_21c
low04_21a
low01_21c
hymus04_21c
hymus03_21c
FL−6_21c
FL−5_21c
DEJONG02_21c
11
0.8
0.6
0.4
0.2
0.0


Plot 109: First branch of lower tree with cut at h=0.95
PLINE~5_5
PLINE~7_21c
MODO~2_21c
MILT~1_5
HARRY~3_5
GUTHR~4_5
GUTHR~2_5
low08_5
AUSTB~6_5
AUSTB~4_5
109
0.8
0.6
0.4
0.2
0.0


Plot 110: First branch of lower tree with cut at h=0.95
PLINE~5_5
PLINE~7_21c
MODO~2_21c
MILT~1_5
HARRY~3_5
GUTHR~4_5
GUTHR~2_5
low08_5
AUSTB~6_5
AUSTB~4_5
110
0.8
0.6
0.4
0.2
0.0


Plot 111: First branch of lower tree with cut at h=0.95
low10b_11
rowe01_11
hymus01_11
CARAB~3_11
YALN~21_14
MODO~3_11
HARRY~6_11
C71~1_11
PAGA~6_25
111
0.8
0.6
0.4
0.2
0.0


Plot 112: First branch of lower tree with cut at h=0.95
PLINE~7_21c
MODO~2_21c
MILT~1_5
HARRY~3_5
GUTHR~4_5
GUTHR~2_5
low08_5
AUSTB~6_5
AUSTB~4_5
PLINE~5_5
112
0.8
0.6
0.4
0.2
0.0

Fauna Assessment



Lot 7
Runnymede Road

Wellesley

November 2021
V1

On behalf of:
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FIGURE 2: Survey Area – Aerial Photograph

FIGURE 3: Habitat Trees (DBH ≥50cm)

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TABLE 1: Conservation significant fauna previously recorded or potentially occurring within in the general vicinity of survey area

TABLE 2: Example images of the fauna habitats within the survey area

TABLE 3: Summary of habitat trees (DBH ≥50cm) within the survey area

TABLE 4: Foraging evidence examples

TABLE 5: Likelihood of occurrence – fauna species of conservation significance

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APPENDIX A: Conservation Categories

APPENDIX B: NatureMap Database Search and Protected Matters Search Tool Results

APPENDIX C: Observed Fauna Listing

APPENDIX D: Habitat Tree Details

SUMMARY

This report details the results of a fauna assessment of an area of proposed clearing within Lot 7 Runnymede Road, Wellesley (the subject site) (Figure 1). The landowners (B & J Catalano Pty Ltd) are proposing to clear up to 9.9 ha of vegetation from within the subject site for the purpose of continuing sand extraction and will be applying to the Department of Water and Environmental Regulation (DWER) for a clearing permit pursuant to Section 51E of the *Environmental Protection Act 1986*.

It is anticipated that the information presented here will also be used by regulatory authorities to assess the potential impact of the proposal on fauna and fauna habitats at the site, during the project evaluation and clearing permit approval process

The fauna assessment has included a literature review and a field reconnaissance survey. The field component of the fauna assessment was carried out on 6 and 7 October 2021 by Greg Harewood (Zoologist).

Key Findings

- The survey area has a total extent of about 9.9 ha and is comprised of two separate zones (Figure 2). The larger (7.9 ha) area contains an open woodland of marri and jarrah over a low open woodland. This area has been subject to historical logging with many of the trees being relatively young in age. The north west section of this area is characterised by an absence of a shrub layer which is present in varying densities in other sections of this zone. The smaller (2.0 ha) area contains a low open woodland of peppermint over an open grassland. This area appears to be largely regrowth from an historical clearing event.

- With respect to fauna habitat values, the majority of the vegetation (in the larger southern zone) appears to be in good to very good condition and would therefore have the capacity to support a wide range native fauna species known to frequent the wider area. Other sections of the survey area been subject to more intense historical and ongoing disturbance (e.g. livestock grazing, firewood collecting, logging and/or clearing) and as a consequence contain vegetation/habitat of a lower quality relative to other areas.

- Despite the history of disturbance, the areas of more coherent remnant vegetation are still likely to be utilised in some fashion be a reasonably wide range of species though most would be relatively common and widespread bird species. Exceptions to this generalised statement include black cockatoos, which may utilise the area for foraging and possibly breeding.

- The subject site was found to contain 91 potential "black cockatoo breeding habitat trees" (DBH >50cm). Two trees appear to contain at least one hollow considered potentially suitable for black cockatoos to use for nesting purposes. One of these trees contains a large hollow that has chew marks that have been attributed to black cockatoo activity. The other hollow has rub marks which may indicate activity by other fauna such as common brushtail possums.

- Quality black cockatoo foraging habitat within the survey area can mainly be defined as the areas containing marri, jarrah and banksia dominated vegetation which makes up most of the southern zone. This vegetation type has a total extent of about 7.9 ha. No existing roosting trees (trees used at night by black cockatoos to rest) were positively identified during the survey.

- In summary one vertebrate fauna species of conservation significance were positively identified as utilising the survey area:

    - Forest Red-tailed Black Cockatoo – Vulnerable (WA/Federal);

    - Carnaby's Black Cockatoo – Endangered (WA/Federal);

- Several additional species of conservation significance may also utilise the survey area, though, as no evidence of their presence was identified during the field survey, their status in the area remains uncertain:

    - Swan Coastal Plain Shield-backed Trapdoor Spider - Priority 3 (DBCA Priority Species);

    - Coastal Plains Skink – Priority 3 (DBCA Priority Species);

    - Perth Lined Skink - Priority 3 (DBCA Priority Species);

    - Peregrine Falcon – Schedule 7 (WA);

    - Masked Owl – Priority 3 (DBCA Priority Species);

    - Baudin's Black Cockatoo – Endangered (WA/Federal);

    - Quenda – Priority 4 (DBCA Priority Species);

    - South-western Brush-tailed Phascogale - Schedule 6 (WA);

    - Western Ringtail Possum – Critically Endangered (WA/Federal);

    - Western Brush Wallaby - Priority 4 (DBCA Priority Species);

    - Western False Pipistrelle – Priority 4 (DBCA Priority Species).

- Under the assumption that the entire survey area will be cleared the following conclusions have been drawn on likely impacts based on observations made. In cases where some habitat is present and available information indicates at least some probability of the species occurrence, likely impacts are anticipated to be low primarily due to likely low population densities and the relatively small total area of vegetation/habitat present (i.e. only a small number of individuals, if any will be affected).

- No overall change in the conservation status of any fauna species currently utilising the survey area is therefore anticipated. While some small, localised residual loss of fauna

habitat may occur for some species, regional impacts on the status of any one species are anticipated to be negligible/non-existent.

- In this instance impacts are most likely to be related to the loss of habitat and the potential for some species to be killed or injured during clearing, including the possible presence of breeding black cockatoos in at least one hollow at certain times of the year.

- If approval for the project is obtained it is recommended that a fauna relocation program be implemented prior to and during clearing works to ensure direct impact on fauna most likely to be encountered, are minimised

1. INTRODUCTION

This report details the results of a fauna assessment over sections of Lot 7 Runnymede Road, Wellesley (the survey area) (Figure 1). The survey area is approximately 9.9 hectares (ha) in size and mostly covered with remnant native vegetation with some partly cleared land (Figure 2).

The landowners (B & J Catalano Pty Ltd) are proposing to clear up to 9.9 ha of vegetation from within the subject site for the purpose of continuing sand extraction and will be applying to the Department of Water and Environmental Regulation (DWER) for a clearing permit pursuant to Section 51E of the *Environmental Protection Act 1986*.

The information presented here will be used by regulatory authorities to assess the potential impact of the proposal on fauna and fauna habitats at the site, during the project evaluation and clearing permit approval process.

Information obtained as part of this fauna assessment report will also be used in conjunction with other environmental investigations to guide project planning and for the formulation of management plans, which will aim to minimise potential environmental impacts.

2. SCOPE OF WORKS

The scope of works was to conduct a “basic” fauna assessment and carry out a targeted survey for black cockatoo habitat. The assessment has therefore involved:

1. A basic (Level 1) Fauna Assessment (EPA 2020);
2. Targeted searches for black cockatoo habitat/site use (habitat trees, existing and potential nest hollows, foraging and roosting habitat); and
3. Report for summarising methods and results.

Note: For the purposes of this proposal the term black cockatoo is in reference to Baudin’s black cockatoo *Zanda baudinii*, Carnaby’s black cockatoo *Zanda latirostris* and the forest red-tailed black cockatoo *Calyptorhynchus banksii naso.*

3. METHODS

3.1 LITERATURE REVIEW – FAUNA SPECIES OF CONSERVATION SIGNIFICANCE

A list of conservation significant fauna recorded or likely to occur within the survey area has been compiled by a review of available databases and literature including, but not limited to the following data sources:

- Department of Biodiversity, Conservation and Attractions (DBCA) Threatened Fauna Database (NatureMap) (DBCA 2021). A 20 km buffer around the survey area was applied to capture previous fauna records within the immediate vicinity;

- *EPBC Act* Protected Matters database for fauna of national environmental significance (DAWE 2021). The minimum buffer (0 km) was applied to this search as the databases contains distribution data (areas) and not actual fauna records; and

- Literature search and review of other fauna surveys in the vicinity.

The conservation status of each species has been based on current lists produced under Federal and State Acts (EPBC Act and the *Biodiversity Conservation Act 2016* (*BC Act*)), those species recognised under international treaties (CAMBA, JAMBA and the Bonn Convention) and Priority Fauna (as listed by the DBCA).

3.2 FIELD SURVEYS

The field component of the fauna assessment was carried out on 6 and 7 October 2021 by Greg Harewood (Zoologist) and consisted of a series of daytime reconnaissance surveys as described in the sections below.

3.2.1 FAUNA HABITAT ASSESSMENT

Vegetation units, landforms and soils observed during the site reconnaissance survey have been used to define broad fauna habitat types across the survey area.

The main objective of the assessment was to determine if it were likely that species of conservation significance would utilise the habitats identified as occurring within the survey area based on their documented habitat preference and current known distribution.

3.2.2 FAUNA OBSERVATIONS

Evidence of the presence or likely presence of fauna species of conservation significance (or suitable habitat) was searched for and recorded concurrent with other site surveys. Opportunistic observations of all fauna species were made during all field survey work and recorded where positive species identifications were made.

This aspect of the assessment included but was not limited to:

- Undertaking a series of transects across the survey area.

- Searching for evidence (i.e. individuals, tracks, scats, calls) of potential conservation significant species under logs, rocks and leaf litter.

- Observing bird species with binoculars.

3.2.3 BLACK COCKATOO HABITAT ASSESSMENT

The following methods were employed to comply with the defined scope of works and are based on Commonwealth of Australia (2012) guidelines which state that surveys for Carnaby's, Baudin's and forest red-tailed black cockatoo habitat should:

- be done by a suitably qualified person with experience in vegetation or cockatoo surveys, depending on the type of survey being undertaken;
- maximise the chance of detecting the species' habitat and/or signs of use;
- determine the context of the site within the broader landscape—for example, the amount and quality of habitat nearby and in the local region (for example, within 10 km);
- account for uncertainty and error (false presence and absences); and
- include collation of existing data on known locations of breeding and feeding birds and night roost locations.

The Commonwealth of Australia (2012) places habitats used by black cockatoos into the following three categories:

- Breeding Habitat;
- Foraging Habitat; and
- Night Roosting Habitat.

3.2.3.1 Breeding Habitat Assessment

The black cockatoo breeding habitat assessment identified all suitable breeding tree species within the survey area that have a diameter at breast height (DBH) equal to or greater than 50cm. The DBH of each tree was estimated using a pre-made "caliper".

Target tree species included marri, jarrah, tuart and flooded gum and any other *Corymbia/Eucalyptus* species of a suitable size that was present. Peppermints, *Banksia*, sheoak and *Melaleuca* tree species (for example) were not assessed as they typically do not develop hollows used by black cockatoos.

The location of each tree identified as being over the threshold DBH will be recorded with a GPS and details on tree species, number and size of hollows (if any) noted. Trees observed to contain hollows (of any size/type) will be marked with "H" using spray paint.

Hollow/potential hollows were placed into one of four categories, based on the size of the apparent hollow entrance, these being:

- Small = ~<5cm diameter (i.e. entrance too small for a black cockatoo);
- Medium = ~5cm-10cm diameter (i.e. entrance too small for a black cockatoo);

- Large = ~>10cm diameter (entrance large enough for a black cockatoo but hollow appears unsuitable for nesting i.e. wrong orientation, appears too small, too low or too shallow); or

- Large (cockatoo) = ~>10cm diameter (entrance and apparent hollow appears big enough and suitably sized/orientated for a black cockatoo to use for nesting).

Based on this assessment, trees present within the survey area were placed into one of four categories:

- Tree <50cm DBH or an unsuitable species (these were not assessed/recorded);

- Tree ≥50cm DBH, no hollows seen;

- Tree ≥50cm DBH, one or more hollows seen, none of which were considered suitable for black cockatoos to use for nesting; or

- Tree ≥50cm DBH, one or more hollows seen, with at least one considered suitable for black cockatoos to use for nesting.

For the purposes of this assessment, a tree containing a potential black cockatoo nest hollow was defined as:

Generally, any tree which is alive or dead that contains one or more visible hollows (cavities within the trunk or branches) or possible hollows suitable for occupation by black cockatoo for the purpose of nesting/breeding. Hollows that had an entrance greater than about 10cm in diameter and would allow the entry of a black cockatoo into a suitably orientated and sized branch/trunk, were recorded as a "potential nest hollow".

Identified hollows were examined using binoculars for evidence of actual use by black cockatoos (e.g. chewing around hollow entrance, scarring and scratch marks on trunks and branches). Details recorded included hollow size, height, type, orientation, comments on suitability and any evidence of use

Trees with possible nest hollows were also scratched and raked with a large stick in attempt to flush any sitting birds from hollows and calls of chicks were listened for. Where the assessment was inconclusive, and if possible, trees identified as having potential nest hollows were subsequently examined and photographed using a drone (DJI Mavic Air).

A review of available literature was carried out to determine the location/extent of any known/likely black cockatoo breeding habitat areas in the vicinity of the survey area.

3.2.3.2 Foraging Habitat Assessment

The location and nature of black cockatoo foraging evidence (e.g. chewed fruits around base of trees) observed during the field survey was recorded. The nature and extent of potential foraging habitat present was also documented irrespective of the presence of any actual foraging evidence. Foraging habitat is represented by plant species that are

known to provide a food source for black cockatoos. This can be in the form of seeds, flowers and also boring grubs that are extracted from some plant species.

A review of available literature was carried out to determine the location/extent of any known/likely black cockatoo foraging habitat areas in the vicinity.

3.2.3.3 Night Roosting Habitat Assessment

Direct and indirect evidence of black cockatoos roosting within trees on site was noted where observed (e.g. branch clippings, droppings or moulted feathers).

A review of available literature was carried out to determine the location/extent of any known/likely black cockatoo roosting habitat areas in the vicinity.

4. SURVEY LIMITATIONS

No seasonal sampling was carried out as part of this fauna assessment. The conclusions presented are based upon field data and the environmental monitoring and/or testing carried out over a limited period of time and are therefore merely indicative of the environmental condition of the site at the time of the field assessments. It should be recognised that site conditions can change with time.

Lack of observational data on some species should also not necessarily be taken as an indication that a species is absent from the site or does not utilise it for some purpose at times.

During the survey, habitat trees with hollows were searched for. It should be noted that identifying hollows suitable for fauna species from ground level has limitations. Generally, the full characteristics of any hollow seen are not fully evident (e.g. internal dimensions). It is also difficult to locate all hollows within all trees as some are not observable from ground level.

The location of observations was recorded using a handheld GPS. The accuracy of the GPS cannot be guaranteed above a level of about 5 to 10 metres, though it should be noted that in some circumstance the accuracy can increase or decrease beyond this range.

5. RESULTS

5.1 LITERATURE REVIEW – FAUNA SPECIES OF CONSERVATION SIGNIFICANCE

The literature review identified multiple fauna species of conservation significance as potentially occurring in the general area as listed in Table 1. The NatureMap (DBCA 2021) and Protected Matter Search Tool (DAWE 2021) results, used as a primary source for compiling this listing, are held within Appendix B.

Because of the proximity of the survey area to the ocean a number of conservation significant marine species have appeared in database searches (Appendix B). These species have been excluded from the assessment as they would not under normal circumstances occur within the survey area.

Table 1: Conservation significant fauna previously recorded or potentially occurring within the general vicinity of survey area.

Species	Conservation Status[1]	
	BC Act/ DBCA Priority	*EPBC Act*
Carter's Freshwater Mussel *Westralunio carteri*	S3	VU
Black stripe Minnow *Galaxiella nigrostriata*	EN	EN
Swan Coastal Plain Shield-backed Trapdoor Spider *Idiosoma sigillatum*	P3	-
Pouched Lamprey *Geotria australis*	P3	-
Coastal Plains Skink *Ctenotus ora*	P3	-
Lined Skink *Lerista lineata*	P3	-
Malleefowl *Leipoa ocellata*	S3	VU
Australasian Bittern *Botaurus poiciloptilus*	S2	EN
Australian Little Bittern *Ixobrychus dubius*	P4	-
Migratory Shorebirds/Wetland Species	Various	Various
Eastern Osprey *Pandion cristatus*	S5	Mig, Ma
Peregrine Falcon *Falco peregrinus*	S7	-
Masked Owl *Tyto novaehollandiae novaehollandiae*	P3	-
Blue-billed Duck *Oxyura australis*	P4	-
Hooded Plover *Thinornis rubricollis*	P4	-
Carnaby`s Black Cockatoo *Zanda latirostris*	S2	EN
Baudin`s Black Cockatoo *Zanda baudinii*	S2	EN
Forest Red-tailed Black Cockatoo *Calyptorhynchus banksii naso*	S3	VU

[1] See Appendix A for conservation status codes

Species	Conservation Status[1]	
	BC Act/ DBCA Priority	*EPBC Act*
Fork-tailed Swift *Apus pacificus*	S5	Mig
Grey Wagtail *Motacilla cinerea*	S5	Mig
Chuditch *Dasyurus geoffroii*	S3	VU
Quenda *Isoodon fusciventer*	P4	-
South-western Brush-tailed Phascogale *Phascogale tapoatafa wambenger*	S6	-
Numbat *Myrmecobius fasciatus*	EN	EN
Western Ringtail Possum *Pseudocheirus occidentalis*	S1	CE
Quokka *Setonix brachyurus*	S3	VU
Woylie *Bettongia penicillata*. *ogilbyi*	S1	EN
Western Brush Wallaby *Notamacropus irma*	P4	-
Water Rat *Hydromys chrysogaster*	P4	-
Western False Pipistrelle *Falsistrellus mackenziei*	P4	-

5.2 FIELD SURVEYS

5.2.1 FAUNA HABITAT ASSESSMENT

The survey area has a total extent of about 9.9 ha and is comprised of two separate zones (Figure 2). The larger (7.9 ha) area contains an open woodland of marri and jarrah over a low open woodland. This area has been subject to historical logging with many of the trees being relatively young in age. The north west section of this area is characterised by an absence of a shrub layer which is present in varying densities in other sections of this zone.

The smaller (2.0 ha) area contains a low open woodland of peppermint over an open grassland. This area appears to be largely regrowth from an historical clearing event.

Example images of the various fauna habitats present are provided in Table 2.

With respect to fauna habitat values, the majority of the vegetation (in the larger southern zone) appears to be in good to very good condition and would therefore have the capacity to support a wide range native fauna species known to frequent the wider area. Other sections of the survey area been subject to more intense historical and ongoing disturbance (e.g. livestock grazing, firewood collecting, logging and/or clearing) and as a consequence contain vegetation/habitat of a lower quality relative to other areas.

Despite the history of disturbance, the areas of more coherent remnant vegetation are still likely to be utilised in some fashion be a reasonably wide range of species though most would be relatively common and widespread bird species. Exceptions to this generalised statement include black cockatoos, which may utilise the area for foraging and possibly breeding (see section 5.2.3).

Table 2: Example images of the fauna habitats within the survey area

Fauna Habitat Description	Example Image
Low open woodland of Peppermint with occasional Jarrah over open grassland on dune crest with grey to light grey/white sands (grading to yellow at depth).	 

Fauna Habitat Description	Example Image
Open woodland of Marri and Jarrah over a low open woodland of *Banksia* and occasional Peppermint over an open shrubland or heath (absent in north west) on dune crest and slope with grey to light grey/white sands (grading to yellow at depth).	 

5.2.2 FAUNA OBSERVATIONS

Seventeen fauna species (mainly common bird species) were observed or secondary evidence of their presence recorded during the field survey. A full listing of the species observed is held on Appendix C.

Evidence of the forest red-tailed black cockatoo and Carnaby's black cockatoo was detected during the day survey in the form of a chewed marri and jarrah fruits (see Section 5.2.3). Several individuals of both species were also heard calling and flying overhead during the field survey.

No evidence of any other fauna species of conservation significance was observed. However, this does not eliminate the potential for some species to still occur, if only infrequently.

5.2.3 BLACK COCKATOO HABITAT ASSESSMENT

5.2.3.1 Breeding Habitat Assessment

Trees considered potentially suitable for black cockatoos to use as nesting habitat (subject to a suitable hollow being present and other factors) found within the survey area comprised the following species:

- Marri – *Corymbia calophylla;*
- Jarrah – *Eucalyptus marginata*; and
- Dead Unidentified - *Eucalyptus* spp.

A summary of the habitat trees observed is provided in Table 3. The locations of habitat trees are shown in Figure 4.

Table 3: Summary of potential habitat trees (DBH ≥50cm) within the survey area

Total Number of Habitat Trees (DBH > 50cm)	Number of Habitat Trees with No Hollows Observed	Number of Habitat Trees with Possible Hollows considered Unsuitable for Black Cockatoos	Number of Habitat Trees with Possible Hollows considered Potentially suitable for Black Cockatoos	Tree Species		
				Marri	Jarrah	Dead Unidentified
91	72	17	2	43	41	7

The assessment identified 91 trees within the survey area with a DBH of ≥50cm. Most of these trees (72) appeared to not contain hollows of any size. Seventeen (17) trees contained apparent or obvious hollows, all of which were assessed as being unlikely to be suitable for black cockatoos to currently use for nesting purposes, due to the hollows apparent small size, unsuitable orientation and/or low height above ground level.

Two trees (2) appear to contain at least one hollow considered potentially suitable for black cockatoos to use for nesting purposes. One of these trees (ID: wpt 017) contains a large hollow that has chew marks that have been attributed to black cockatoo activity. The other hollow has rub marks which may indicate activity by other fauna such as common brushtail possums. Pictures of these hollows and additional details on each habitat tree observed can be found in Appendix D.

Based on available mapping, there is approximately 12,000 ha of remnant native vegetation within 12 km of the survey area (DPIRD 2021). Much of this is likely to contain "potential" breeding habitat as defined by DAWE (i.e. suitable tree species with a DBH ≥50cm).

5.2.3.2 Foraging Habitat Assessment

The following flora species are known to be or are potentially used as a direct food source (e.g. seeds, flowers, nectar, bark or grubs) by one or more species of black cockatoo were recorded within the survey area:

- Marri – *Corymbia calophylla*;
- Jarrah – *Eucalyptus marginata*;
- Slender Banksia - *Banksia attenuata*;
- Bull Banksia - *Banksia grandis;*
- Grey Stinkwood - *Jacksonia furcellata*; and
- Peppermint – *Agonis flexuosa.*

It should be noted that some of the above-mentioned species (e.g. grey stinkwood and peppermint) while foraged upon on occasions would make up only a small proportion of any one bird's diet relative to more favoured plant species such as marri and banksia. .

Evidence of black cockatoos foraging was observed during the field survey at a number of locations. The evidence was in all cases in the form of chewed fruits from marri and jarrah trees and banksia cones. The foraging activity was attributed to either the forest red-tailed black cockatoo or Carnaby's black cockatoo. Examples of the foraging debris observed and the species attributed to the activity are provided in Table 4.

Table 4: Foraging Evidence Examples

Foraging Evidence Description	Example Image
Jarrah fruits – foraging activity attributed to either the Forest Red-tailed Black Cockatoo or Carnaby's Black Cockatoo.	

Foraging Evidence Description	Example Image
Banksia Cone – foraging activity attributed to Carnaby's Black Cockatoo.	
Marri fruits – foraging activity attributed to the Forest Red-tailed Black Cockatoo.	

Quality foraging habitat within the survey area can mainly be defined as the areas containing marri, jarrah and banksia dominated vegetation which makes up most of the southern zone. This vegetation type has a total extent of about 7.9 ha.

Based on available mapping there is about 12,000 ha of remnant native vegetation within 12 km of the survey area (DPIRD 2021). Much of this is likely to represent black cockatoo foraging habitat of some type.

5.2.3.3 Night Roosting Habitat Assessment

No evidence of black cockatoos roosting within trees located within the survey area was observed during the survey period. It is difficult to determine if trees or groves of trees within the survey area represent potential roosting habitat as a range of factors, not all of which can be observed, determine suitability. Some of the larger trees (including non-endemics) may be suitable for roosting but as indicated no actual evidence of use was seen.

A review of the 2019 Great Cocky Count database shows no documented roost sites within the survey area. Three documented roost sites occur within 12 km of the survey area, however none were active or monitored at the time of the April 2019 survey.

6. CONSERVATION SIGNIFICANT FAUNA SPECIES

Based on the information gathered during the site reconnaissance survey and the documented distribution and habitat preferences of the species of conservation significance identified as potentially being present in the general area, their likelihood of occurrence has been assessed. A summary of this assessment is presented in Table 5.

Some comments on the possible impacts of any proposed development are also provided under that assumption that all of the survey area (9.9 ha) will be cleared.

Two fauna species of conservation significance (listed as State or Federal threatened/migratory species or as DBCA priority species) were positively identified as utilising the survey area for some purpose during the survey period:

- Forest Red-tailed Black Cockatoo *Calyptorhynchus banksii naso* – S3 (*BC Act*), Vulnerable (*EPBC Act*).
  Foraging evidence and individuals observed. The survey area contains areas of potential black cockatoo breeding habitat (trees with a DBH >50cm) with one tree showing signs of actual use by black cockatoos (but not necessarily by this species). The majority of the native vegetation within the survey area represents foraging habitat for this species. No evidence of roosting observed.

- Carnaby`s Black-Cockatoo *Zanda latirostris* – S2 (*BC Act*), Endangered (*EPBC Act*).
  Foraging evidence and individuals observed. The survey area contains areas of potential black cockatoo breeding habitat (trees with a DBH >50cm) with one tree showing signs of actual use by black cockatoos (but not necessarily by this species). The majority of the native vegetation within the survey area represents foraging habitat for this species. No evidence of roosting observed.

Table 5: Likelihood of Occurrence – Fauna Species of Conservation Significance

Species	Conservation Status		Habitat Preferences	Habitat Present	Likelihood of Occurrence	Comments/Possible Impacts
	BC Act/ DBCA Priority	*EPBC Act*				
Carter's Freshwater Mussel *Westralunio carteri*	S3	VU	Occurs in greatest abundance in slower flowing streams with stable sediments that are soft enough for burrowing amongst woody debris and exposed tree roots.	No	Would Not Occur.	No suitable habitat. No impact on this species will occur.
Black stripe Minnow Galaxiella nigrostriata	EN	EN	Permanent or ephemeral pools, roadside ditches and small creeks in sandy, thickly vegetated wetland areas. Water is usually darkly tannin stained and acidic (pH 4.6 – 6.5)	No	Would Not Occur.	No suitable habitat. No impact on this species will occur.
Pouched Lamprey *Geotria australis*	P3	-	This species lives in mud burrows in the upper reaches of coastal streams for the first four years of life until migrating to the sea. Adults migrate up to 60km upstream during spawning.	No	Would Not Occur.	No suitable habitat. No impact on this species will occur.
Swan Coastal Plain Shield-backed Trapdoor Spider *Idiosoma sigillatum*	P3	-	Burrows of this species usually found in *Banksia* woodland and heathland on sandy soils.	Yes	Possibly Occurs.	May occur though there are no records of this species in this area, possibly due to a lack of surveys. Loss/modification of small areas of habitat. Negligible impact on species status anticipated given small area involved.
Coastal Plains Skink *Ctenotus ora*	P3	-	Sandy substrates with low vegetation (including heath) in open *Eucalyptus/Corymbia* woodland over *Banksia*.	Yes	Possibly Occurs.	May occur – recorded in nearby areas (e.g. Kemerton). Loss/modification of small areas of habitat. Negligible impact on species status anticipated given small area involved.
Lined Skink *Lerista lineata*	P3	-	Inhabits loose white sands and leaf litter under areas of shrubs and heath particularly in association with banksias.	Yes	Possibly Occurs.	May occur – recorded in nearby areas (e.g. Kemerton). Loss/modification of small areas of habitat. Negligible impact on species status anticipated given small area involved.
Malleefowl *Leipoa ocellata*	S3	VU	Mainly scrubs and thickets of mallee *Eucalyptus* spp., boree *Melaleuca lanceolata* and bowgada *Acacia linophylla*, also dense litter forming shrublands.	No	Would Not Occur.	Regionally extinct. This species has not been recorded on the coastal plain for over 60 years.
Australasian Bittern *Botaurus poiciloptilus*	S1	EN	Freshwater wetlands, occasionally estuarine; prefers heavy vegetation such as beds of tall dense *Typha, Baumea* and sedges in freshwater swamps.	No	Would Not Occur.	No suitable habitat. No impact on this species will occur.

Species	Conservation Status		Habitat Preferences	Habitat Present	Likelihood of Occurrence	Comments/Possible Impacts
	BC Act/ DBCA Priority	*EPBC Act*				
Australian Little Bittern *Ixobrychus dubius*	P4	-	Dense vegetation surrounding/within freshwater pools, swamps and lagoons, well screened with trees. Shelters in dense beds of *Typha, Baumea* and tall rushes in freshwater swamps around lakes and along rivers.	No	Would Not Occur.	No suitable habitat. No impact on this species will occur.
Migratory Shorebirds/Wetland Species/Marine Species (various reptiles, birds and mammals)	S5, Various	Ma, Mig, Various	Varies between species but includes open ocean, beaches and permanent/temporary wetlands varying from billabongs, swamps, lakes, floodplains, sewerage farms, saltwork ponds, estuaries, lagoons, mudflats sandbars, pastures, airfields, sports fields and lawns.	No	Would Not Occur.	No suitable habitat. No impact on this range of species will occur.
Hooded Plover *Thinornis rubricollis*	P4	-	Broad sandy ocean beaches and bays, coastal and inland salt lakes.	No	Would Not Occur.	No suitable habitat. No impact on this species will occur.
Eastern Osprey *Pandion haliaetus*	S5	Ma, Mig	Coasts, estuaries, bays, inlets, islands, and surrounding waters, coral atolls, reefs, lagoons, rock cliffs and stacks. Ascends larger rivers.	No	Would Not Occur.	No suitable habitat. No impact on this species will occur.
Peregrine Falcon *Falco peregrinus*	S7	-	Diverse from rainforest to arid shrublands, from coastal heath to alpine Mainly about cliffs along coasts, rivers and ranges and about wooded watercourses and lakes.	Yes	Possibly Occurs.	This species is uncommon but the survey area may represent part of a larger home range used by individuals of this species. No significant impact on this species anticipated given small area involved.
Masked Owl (SW population) *Tyto n. novaehollandiae*	P3	-	Roosts and nests in heavy forest, hunts over open woodlands and farmlands.	Yes	Possibly Occurs.	This species is uncommon but may occur, if only occasionally. No significant impact on this species anticipated given small area involved.
Blue-billed Duck *Oxyura australis*	P4	-	Well vegetated freshwater swamps, large dams and lakes, winters on more open water. Occasionally salt lakes and estuaries freshened by floodwaters.	No	Would Not Occur.	No suitable habitat. No impact on this species will occur.
Carnaby`s Black Cockatoo *Calyptorhynchus latirostris*	S2	EN	Forests, woodlands, heathlands, farms; feeds on *Banksia*, *Hakea* and Marri.	Yes	Known to Occur	Loss/modification of small areas of habitat including potential nest sites. No significant impact on this species anticipated given small area involved.
Baudin`s Black Cockatoo *Calyptorhynchus baudinii*	S2	EN	Mainly eucalypt forests where it feeds primarily on the marri seeds.	Yes	Possibly Occurs.	Loss/modification of small areas of habitat including potential nest sites. No significant impact on this species anticipated given small area involved.

Species	Conservation Status		Habitat Preferences	Habitat Present	Likelihood of Occurrence	Comments/Possible Impacts
	BC Act/ DBCA Priority	*EPBC Act*				
Forest Red-tailed Black Cockatoo *Calyptorhynchus banksii naso*	S3	VU	Eucalypt forests, feeds on marri, jarrah, blackbutt, karri, sheoak and snottygobble.	Yes	Known to Occur	Loss/modification of small areas of habitat including potential nest sites. No significant impact on this species anticipated given small area involved.
Fork-tailed Swift *Apus pacificus*	S5	Ma, Mig	Low to very high airspace over varied habitat from rainforest to semi desert.	Yes	Unlikely to Occur, Flyover only on very rare occasions.	May occur very occasionally for brief periods. Entirely aerial. No impact on this species will occur.
Grey Wagtail *Motacilla cinerea*	S5	Mig, Ma	In Australia, near running water in disused quarries, sandy, rocky streams in escarpments and rainforest, sewerage ponds, ploughed fields and airfields.	No	Would Not Occur.	No suitable habitat. No impact on this species will occur.
Chuditch *Dasyurus geoffroii*	S3	VU	Forest, mallee shrublands, woodland and desert. The densest populations have been found in riparian jarrah forest.	Yes	Unlikely to Occur	Locally extinct. Very rarely recorded on the coastal plain. Occasional transients only.
Quenda *Isoodon fusciventer*	P4	-	Dense scrubby, often swampy, vegetation with dense cover.	Yes	Possibly Occurs.	Loss/modification of small areas of habitat. No significant impact on this species anticipated given small area involved.
South-west Brush-tailed Phascogale *Phascogale tapoatafa wambenger*	S6	-	Dry sclerophyll forests and open woodlands that contain hollow-bearing trees but a sparse ground cover.	Yes	Possibly Occurs.	Loss/modification of very small areas of habitat. No significant impact on this species anticipated given small area involved.
Numbat *Myrmecobius fasciatus*	S3	VU	Generally found in habitats dominated by eucalypts that provide hollow logs and branches for shelter and termites for food.	No	Would Not Occur.	Locally extinct. No impact on this species will occur.
Western Ringtail Possum *Pseudocheirus occidentalis*	S1	CE	Coastal peppermint, coastal peppermint-tuart, jarrah-marri associations, sheoak woodland, and eucalypt woodland and mallee.	Yes/Marginal	Possibly Occurs.	No evidence of this species observe suggesting it is absent or only occurs in low densities. Loss/modification of small areas of habitat. No significant impact on this species anticipated given small area involved.
Quokka *Setonix brachyurus*	S3	VU	Currently restricted to densely vegetated coastal heaths, swamps, riverine habitats including tea-tree thickets on sandy soils along creek systems.	No	Would Not Occur.	This species is locally extinct/no suitable habitat. No impact on this species will occur.
Woylie *Bettongia penicillata ogibyi*	S1	EN	Open sclerophyll forest and woodland with a low, dense, understorey of tussock grasses or woody scrub.	No	Would Not Occur.	This species is locally extinct/no suitable habitat. No impact on this species will occur.
Western Brush Wallaby *Macropus irma*	P4	-	Open forest or woodland, particularly favouring open, seasonally wet flats with low grasses and open scrubby thickets.	Yes	Possibly Occurs.	Loss/modification of small areas of habitat. Negligible impact on species status anticipated given small area involved.

Species	Conservation Status		Habitat Preferences	Habitat Present	Likelihood of Occurrence	Comments/Possible Impacts
	BC Act/ DBCA Priority	***EPBC Act***				
Western False Pipistrelle *Falsistrellus mackenziei*	P4	-	Wet sclerophyll forest dominated by karri and in high rainfall zones of the jarrah and marri forest.	Yes	Possibly Occurs.	Loss/modification of small areas of habitat. Negligible impact on species status anticipated given small area involved.
Water Rat *Hydromys chrysogaster*	P4	-	Permanent water, fresh, brackish or marine.	No	Would Not Occur.	No suitable habitat. No impact on this species will occur.

See Appendix A for conservation status codes

Several additional species of conservation significance may utilise the survey area for some purpose at times, but their status on-site and/or in the general area is difficult to determine because they were not sighted during the field survey, or evidence of use was not observed:

- Swan Coastal Plain Shield-backed Trapdoor Spider *Idiosoma sigillatum* - P3 (DBCA Priority Species)
  Status of this species within the survey area is difficult to determine without a detailed survey, however, given the location within its documented range, some recent nearby records and the presence of habitat that appears suitable it must be assumed to be present. Listed as a potential species based on available information.

- Coastal Plains Skink *Ctenotus ora* – P3 (DBCA Priority Species)
  Status of this species within the survey area is difficult to determine without a detailed survey, however, given the location within its documented range, some recent nearby records and the presence of habitat that appears suitable it must be assumed to be present. Listed as a potential species based on available information.

- Perth Lined Skink *Lerista lineata* - P3 (DBCA Priority Species)
  Status of this species within the survey area is difficult to determine without a detailed survey, however, given the location within its documented range, some recent nearby records and the presence of habitat that appears suitable it must be assumed to be present. Listed as a potential species based on available information.

- Peregrine Falcon *Falco peregrinus* – S7 (*BC Act*)
  This species potentially utilises some sections of the survey area as part of a much larger home range though it is only likely to occur infrequently. All areas represent potential foraging habitat for this species. Listed as a potential species based on available information. Listed as a potential species based on available information.

- Baudin's Black-Cockatoo *Zanda baudinii* – S2 (*BC Act*), Endangered (*EPBC Act*).
  No evidence of this species recorded. The survey area contains areas of potential black cockatoo breeding habitat (trees with a DBH >50cm) with one tree showing signs of actual use by black cockatoos (but not necessarily by this species). The majority of the native vegetation within the survey area represents foraging habitat for this species. No evidence of roosting observed.

- Masked Owl *Tyto novaehollandae* – P3 (DBCA Priority Species)
  Status in the general area is difficult to determine. May utilise woodland areas within and near the survey area for roosting and may forage in more open areas. Probably only present occasionally and for short periods. Some of the identified hollow bearing trees represent possible nest sites. Listed as a potential species based on available information.

- Quenda *Isoodon fusciventer* – P4 (DBCA Priority Species)
  Habitat is generally marginal for this species given the sparse nature of groundcover but it may occur in some areas where the densest vegetation occurs. Listed as a potential species based on available information.

- South-western Brush-tailed Phascogale *Phascogale tapoatafa wambenger* – S6 (*BC Act*)
  Status of this species within the subject site is difficult to determine without a detailed survey, however, given the location within its documented range, some recent nearby records and the presence of habitat that appears suitable it must be assumed to be present. Listed as a potential species based on available information.

- Western Ringtail Possum *Pseudocheirus occidentalis* – Critically Endangered (*BC Act*), Critically Endangered (*EPBC Act*)
  No evidence of this species recorded during the survey period but known to occur in the general area though it appears to be more commonly encountered west of Forrest Highway. Listed as a potential species based on available information.

- Western Brush Wallaby *Notamacropus irma* - P4 (DBCA Priority Species)
  Known to occur in the Kemerton area and given the presence of suitable habitat it must be assumed to be present, though probably only occasionally and in low numbers. Listed as a potential species based on available information.

- Western False Pipistrelle *Falsistrellus mackenziei* – P4 (DBCA Priority Species)
  Status of this species within the survey area is difficult to determine, however, given the location is within its documented range, some recent nearby records and the presence of habitat that appears suitable it must be assumed to be present. All sections of the survey area represent potential foraging habitat for this species and any hollow bearing trees represent possible day time roost sites. Listed as a potential species based on available information.

A number of other species of conservation significance (as listed in Table 5), while possibly present in the larger bush remnants in the wider area (e.g. Yalgorup/Kemerton/Darling Range) are not listed as potentially occurring within the survey area primarily due to a complete lack of suitable habitat (quality and extent) and/or known local/regional extinction.

Under the assumption that the entire survey area will be cleared the following conclusions have been drawn on likely impacts based on observations made. In cases where some habitat is present and available information indicates at least some probability of the species occurrence, likely impacts are anticipated to be low primarily due to likely low population densities and the relatively small total area of vegetation/habitat present (i.e. only a small number of individuals, if any will be affected).

No overall change in the conservation status of any fauna species currently utilising the survey area is therefore anticipated. While some small, localised residual loss of fauna habitat may occur for some species, regional impacts on the status of any one species are anticipated to be negligible/non-existent.

In this instance impacts are most likely to be related to the loss of habitat and the potential for some species to be killed or injured during clearing, including the possible presence of breeding black cockatoos in at least one hollow at certain times of the year.

7. CONCLUSION

The fauna assessment within the survey area was primarily undertaken to document black cockatoo habitat and to determine the possible presence other conservation significant fauna species and/or their habitat.

The subject site was found to contain 91 potential “black cockatoo breeding habitat trees” (DBH $\geq$50cm). Two trees appear to contain at least one hollow considered potentially suitable for black cockatoos to use for nesting purposes. One of these trees contains a large hollow that has chew marks that have been attributed to black cockatoo activity. The other hollow has rub marks which may indicate activity by other fauna such as common brushtail possums.

Quality black cockatoo foraging habitat within the survey area can mainly be defined as the areas containing marri, jarrah and banksia dominated vegetation which makes up most of the southern zone. This vegetation type has a total extent of about 7.9 ha. No existing roosting trees (trees used at night by black cockatoos to rest) were positively identified during the survey.

Two fauna species of conservation significance (listed as State or Federal threatened/migratory species or as DBCA priority species) were positively identified as utilising the survey area for some purpose during the survey period (two species of black cockatoos). Several additional species of conservation significance may also utilise the survey area for some purpose at times, but their status on-site and/or in the general area is difficult to determine because they were not sighted during the field survey, or evidence of use was not observed:

Under the assumption that the entire survey area will be cleared the following conclusions have been drawn on likely impacts based on observations made. In cases where some habitat is present and available information indicates at least some probability of the species occurrence, likely impacts are anticipated to be low primarily due to likely low population densities and the relatively small total area of vegetation/habitat present (i.e. only a small number of individuals, if any will be affected).

No overall change in the conservation status of any fauna species currently utilising the survey area is therefore anticipated. While some small, localised residual loss of fauna habitat may occur for some species, regional impacts on the status of any one species are anticipated to be negligible/non-existent.

If approval for the project is obtained it is recommended that a fauna relocation program be implemented prior to and during clearing works to ensure direct impact on fauna most likely to be encountered, are minimised.

8. REFERENCES

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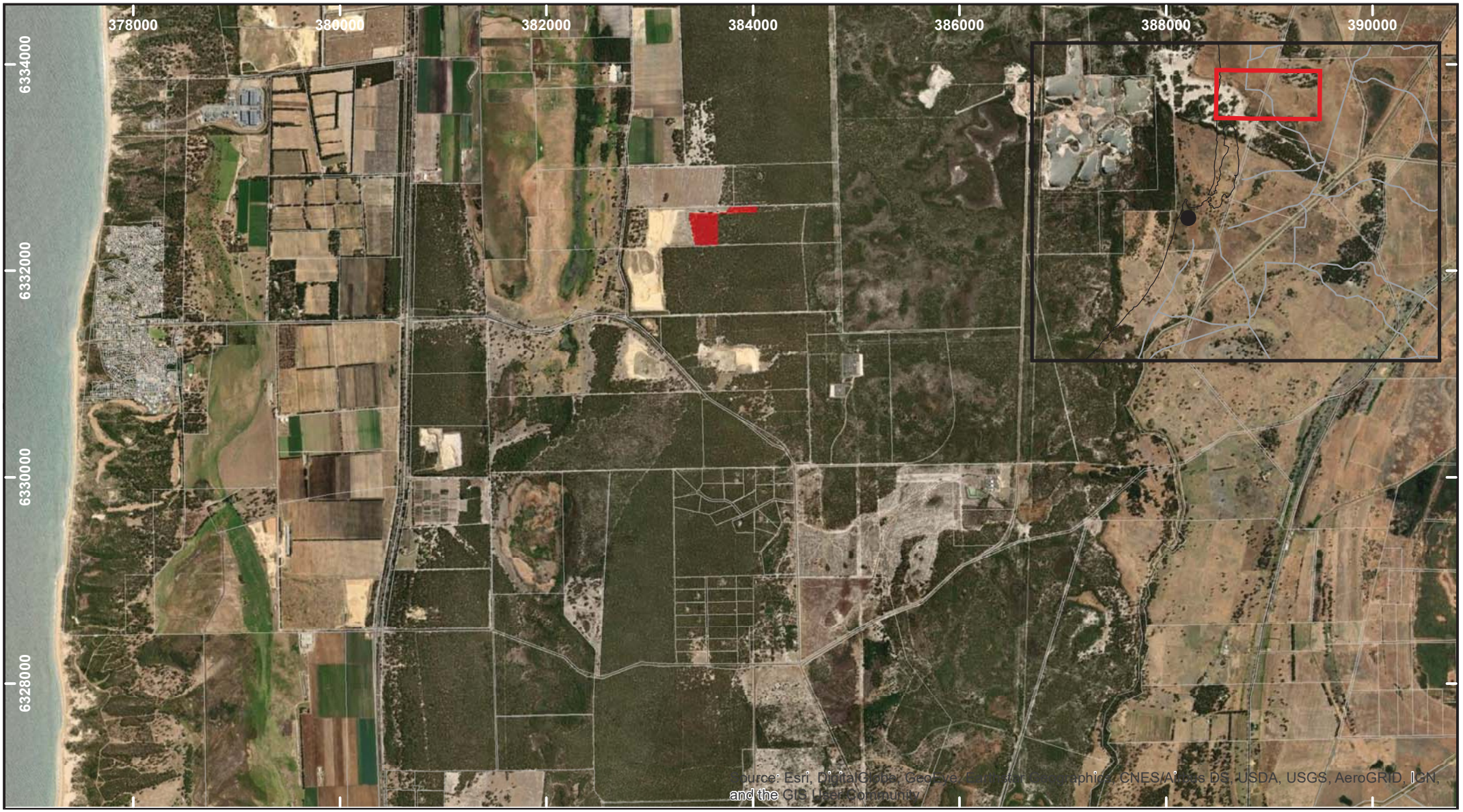
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FIGURES



Legend

Survey Area

N

0 1 2 3 4 5

Kilometres

Fauna Survey

Drawn: G Harewood

Date: 22-Nov-21

Scale: 1:50,000

Projection/Coordinate System: UTM/MGA Zone 50

Lot 7 Runnymede Road
Wellesley

Survey Area and Surrounds

Figure: 1



Legend

Survey Area

N

0 50 100 150 200 250

Metres

Fauna Survey

Lot 7 Runnymede Road Wellesley

Survey Area Aerial Photograph

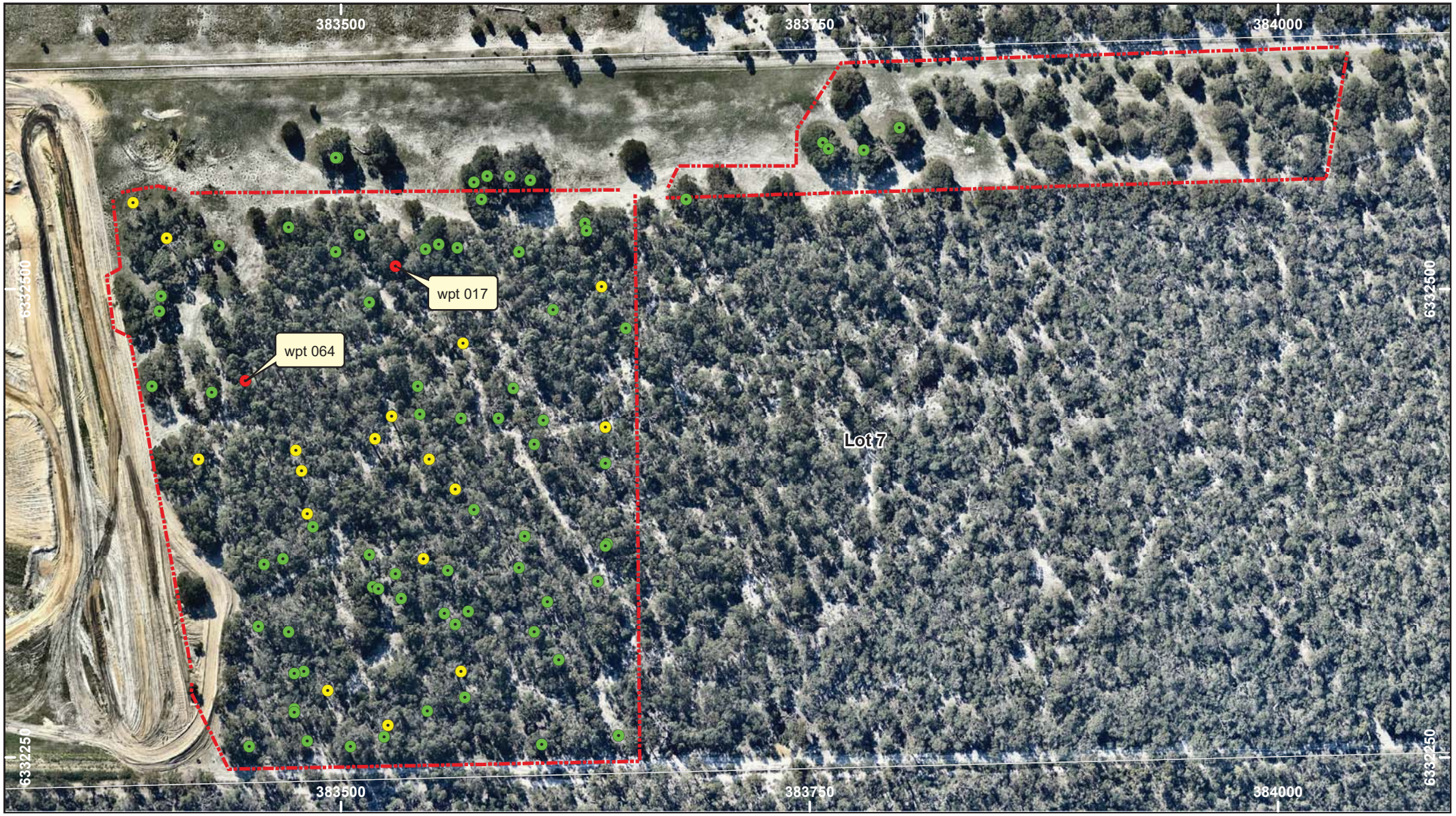
Drawn: G Harewood

Date: 22-Nov-21

Scale: 1:2,750

Projection/Coordinate System: UTM/MGA Zone 50

Figure: 2



Legend

- Survey Area
- Habitat Tree - One or more large hollows possibly suitable for black cockatoos
- Habitat Tree - One or more possible small/medium hollows
- Habitat Tree - No hollows seen

0 50 100 150 200 250

Metres



Drawn: G Harewood

Date: 28-Nov-21

Scale: 1:2,750

Projection/Coordinate System: UTM/MGA Zone 50

Lot 7 Runnymede Road Wellesley

Habitat Trees (DBH >50cm)

Figure: 3

APPENDIX A

CONSERVATION CATEGORIES

***EPBC Act (1999)* Threatened Fauna Categories**

Threatened fauna may be listed under Section 178 of the *Environment Protection and Biodiversity Conservation Act 1999* (*EPBC Act*) in any one of the following categories:

Category	Code	Description
Extinct	E	There is no reasonable doubt that the last member of the species has died.
*Extinct in the wild	EW	A species (a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or (b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
*Critically Endangered	CE	A species is facing an extremely high risk of extinction in the wild in the immediate future.
*Endangered	EN	A species: (a) is not critically endangered; and (b) is facing a very high risk of extinction in the wild in the near future.
*Vulnerable	VU	A species (a) is not critically endangered or endangered; and (b) is facing a high risk of extinction in the wild in the medium-term future.
Conservation Dependent	CD	A species is the focus of a specific conservation program the cessation of which would result in the species becoming vulnerable, endangered or critically endangered
*Migratory	Migratory	(a) all migratory species that are: (i) native species; and (ii) from time to time included in the appendices to the Bonn Convention; and (b) all migratory species from time to time included in annexes established under JAMBA, CAMBA and ROKAMBA; and (c) all native species from time to time identified in a list established under, or an instrument made under, an international agreement approved by the Minister.
Marine	Ma	Species in the list established under s248 of the *EPBC Act*

Note: Only species in those categories marked with an asterix are matters of national environmental significance (NES) under the *EPBC Act*.

Wildlife Conservation (Specially Protected Fauna) Notice 2018 Categories

Published as Specially Protected under the *Wildlife Conservation Act 1950*, and listed under Schedules 1 to 7 of the Wildlife Conservation (Specially Protected Fauna) Notice.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

Category	Code	Description
Schedule 1 (S1) Critically Endangered species	CR	Threatened species considered to be facing an extremely high risk of extinction in the wild in the immediate future.
Schedule 2 (S2) Endangered species	EN	Threatened species considered to be facing a very high risk of extinction in the wild in the near future.
Schedule 3 (S3) Vulnerable species	VU	Threatened species considered to be facing a high risk of extinction in the wild in the medium-term future.
Schedule 4 (S4) Presumed extinct species	EX	Species which have been adequately searched for and there is no reasonable doubt that the last member of the species has died.
Schedule 5 (S5) Migratory birds protected under an international agreement	MI	Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or Birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and the Bonn Convention, relating to the protection of migratory birds.
Schedule 6 (S6) Fauna that is of special conservation need as conservation dependent fauna	CD	Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened.
Schedule 7 (S7) Other specially protected fauna.	OS	Fauna otherwise in need of special protection to ensure their conservation.

Western Australian DBCA Priority Fauna Categories

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened flora or fauna.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

Category	Code	Description
Priority 1 (P1) Poorly Known Species.	P1	Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.
Priority 2 (P2) Poorly Known Species.	P2	Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.
Priority 3 (P3) Poorly Known Species.	P3	Species that are known from several locations and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.
Priority 4 (P4) Rare, Near Threatened and other species in need of monitoring.	P4	(a) Rare: Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands. (b) Near Threatened: Species that are considered to have been adequately surveyed and that are close to qualifying for Vulnerable, but are not listed as Conservation Dependent. (c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

*Species includes all taxa (plural of taxon - a classificatory group of any taxonomic rank, e.g. a family, genus, species or any infraspecific category i.e. subspecies or variety, or a distinct population).

***IUCN Red List* Threatened Species Categories**

The *IUCN Red List of Threatened Species*™ is a checklist of taxa that have undergone an extinction risk assessment using the *IUCN Red List Categories and Criteria*.

Categories are summarized below.

Category	Code	Description
Extinct	EX	Taxa for which there is no reasonable doubt that the last individual has died.
Extinct in the Wild	EW	Taxa which is known only to survive in cultivation, in captivity or and as a naturalised population well outside its past range and it has not been recorded in known or expected habitat despite exhaustive survey over a time frame appropriate to its life cycle and form.
Critically Endangered	CR	Taxa facing an extremely high risk of extinction in the wild.
Endangered	EN	Taxa facing a very high risk of extinction in the wild.
Vulnerable	VU	Taxa facing a high risk of extinction in the wild.
Near Threatened	NT	Taxa which has been evaluated but does not qualify for CR, EN or VU now but is close to qualifying or likely to qualify in the near future.
Least Concern	LC	Taxa which has been evaluated but does not qualify for CR, EN, VU, or NT but is likely to qualify for NT in the near future.
Data Deficient	DD	Taxa for which there is inadequate information to make a direct or indirect assessment of its risk of extinction based on its distribution and/or population status.
Not Evaluated	NE	Taxa which has not been evaluated.

A full list of categories and their meanings are available at:

http://www.iucnredlist.org/technical-documents/categories-and-criteria/2001-categories-criteria

APPENDIX B

NATUREMAP DATABASE SEARCH
AND
PROTECTED MATTERS SEARCH TOOL RESULTS

NatureMap
Mapping Western Australia's biodiversity

NatureMap - Runnymede

Created By Greg Harewood on 22/11/2021

Kingdom	Animalia
Current Names Only	Yes
Core Datasets Only	Yes
Method	'By Circle'
Centre	115° 45' 05" E,33° 08' 27" S
Buffer	20km
Group By	Species Group

Species Group	Species	Records
Amphibian	11	249
Bird	196	7362
Fish	16	102
Invertebrate	105	377
Mammal	34	1461
Reptile	42	872
TOTAL	**404**	**10423**

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
Amphibian					
1.	25398	*Crinia georgiana (Quacking Frog)*			
2.	25399	*Crinia glauerti (Clicking Frog)*			
3.	25400	*Crinia insignifera (Squelching Froglet)*			
4.	25401	*Crinia pseudinsignifera (Bleating Froglet)*			
5.	25404	*Geocrinia leai (Ticking Frog)*			
6.	25408	*Heleioporus albopunctatus (Western Spotted Frog)*			
7.	25410	*Heleioporus eyrei (Moaning Frog)*			
8.	25415	*Limnodynastes dorsalis (Western Banjo Frog)*			
9.	25378	*Litoria adelaidensis (Slender Tree Frog)*			
10.	25388	*Litoria moorei (Motorbike Frog)*			
11.	25433	*Pseudophryne guentheri (Crawling Toadlet)*			
Bird					
12.	24260	*Acanthiza apicalis (Broad-tailed Thornbill, Inland Thornbill)*			
13.	24261	*Acanthiza chrysorrhoa (Yellow-rumped Thornbill)*			
14.	24262	*Acanthiza inornata (Western Thornbill)*			
15.	24560	*Acanthorhynchus superciliosus (Western Spinebill)*			
16.	25535	*Accipiter cirrocephalus (Collared Sparrowhawk)*			
17.	24281	*Accipiter cirrocephalus subsp. cirrocephalus (Collared Sparrowhawk)*			
18.	25536	*Accipiter fasciatus (Brown Goshawk)*			
19.	25755	*Acrocephalus australis (Australian Reed Warbler)*			
20.	41323	*Actitis hypoleucos (Common Sandpiper)*		IA	
21.	25544	*Aegotheles cristatus (Australian Owlet-nightjar)*			
22.	24310	*Anas castanea (Chestnut Teal)*			
23.	24312	*Anas gracilis (Grey Teal)*			
24.	24313	*Anas platyrhynchos (Mallard)*			
25.	24315	*Anas rhynchotis (Australasian Shoveler)*			
26.	24316	*Anas superciliosa (Pacific Black Duck)*			
27.	47414	*Anhinga novaehollandiae (Australasian Darter)*			
28.	24506	*Anous tenuirostris subsp. melanops (Australian Lesser Noddy)*		T	
29.	24561	*Anthochaera carunculata (Red Wattlebird)*			
30.	24562	*Anthochaera lunulata (Western Little Wattlebird)*			
31.	25670	*Anthus australis (Australian Pipit)*			
32.	24285	*Aquila audax (Wedge-tailed Eagle)*			
33.	25558	*Ardea ibis (Cattle Egret)*			
34.	41324	*Ardea modesta (great egret, white egret)*			
35.	24340	*Ardea novaehollandiae (White-faced Heron)*			
36.	24341	*Ardea pacifica (White-necked Heron)*			
37.	24610	*Ardeotis australis (Australian Bustard)*			
38.	25736	*Arenaria interpres (Ruddy Turnstone)*		IA	
39.	25566	*Artamus cinereus (Black-faced Woodswallow)*			

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
40.	24353	*Artamus cyanopterus (Dusky Woodswallow)*			
41.	24318	*Aythya australis (Hardhead)*			
42.		*Barnardius zonarius*			
43.	24319	*Biziura lobata (Musk Duck)*			
44.	24345	*Botaurus poiciloptilus (Australasian Bittern)*		T	
45.	24721	*Cacatua galerita subsp. galerita (Sulphur-crested Cockatoo)*	Y		
46.	25714	*Cacatua pastinator (Western Long-billed Corella)*			
47.	25715	*Cacatua roseicapilla (Galah)*			
48.	25716	*Cacatua sanguinea (Little Corella)*			
49.	25598	*Cacomantis flabelliformis (Fan-tailed Cuckoo)*			
50.	42307	*Cacomantis pallidus (Pallid Cuckoo)*			
51.	24779	*Calidris acuminata (Sharp-tailed Sandpiper)*		IA	
52.	25738	*Calidris canutus (Red Knot, knot)*		IA	
53.	24784	*Calidris ferruginea (Curlew Sandpiper)*		T	
54.	24788	*Calidris ruficollis (Red-necked Stint)*		IA	
55.	24790	*Calidris tenuirostris (Great Knot)*		T	
56.	25717	*Calyptorhynchus banksii (Red-tailed Black-Cockatoo)*			
57.	24731	*Calyptorhynchus banksii subsp. naso (Forest Red-tailed Black Cockatoo)*		T	
58.	24733	*Calyptorhynchus baudinii (Baudin's Cockatoo, White-tailed Long-billed Black Cockatoo)*		T	
59.	24734	*Calyptorhynchus latirostris (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo)*		T	
60.	48400	*Calyptorhynchus sp. (white-tailed black cockatoo)*		T	
61.	25575	*Charadrius leschenaultii (Greater Sand Plover)*		T	
62.	24377	*Charadrius ruficapillus (Red-capped Plover)*			
63.	24321	*Chenonetta jubata (Australian Wood Duck, Wood Duck)*			
64.		*Chroicocephalus novaehollandiae*			
65.	25601	*Chrysococcyx lucidus (Shining Bronze Cuckoo)*			
66.	24432	*Chrysococcyx lucidus subsp. plagosus (Shining Bronze Cuckoo)*			
67.	24288	*Circus approximans (Swamp Harrier)*			
68.	24774	*Cladorhynchus leucocephalus (Banded Stilt)*			
69.	25675	*Colluricincla harmonica (Grey Shrike-thrush)*			
70.	24399	*Columba livia (Domestic Pigeon)*	Y		
71.	25568	*Coracina novaehollandiae (Black-faced Cuckoo-shrike)*			
72.	25592	*Corvus coronoides (Australian Raven)*			
73.	24417	*Corvus coronoides subsp. perplexus (Australian Raven)*			
74.	24671	*Coturnix pectoralis (Stubble Quail)*			
75.	25701	*Coturnix ypsilophora (Brown Quail)*			
76.	24420	*Cracticus nigrogularis (Pied Butcherbird)*			
77.	25595	*Cracticus tibicen (Australian Magpie)*			
78.	24422	*Cracticus tibicen subsp. dorsalis (White-backed Magpie)*			
79.	25596	*Cracticus torquatus (Grey Butcherbird)*			
80.	24322	*Cygnus atratus (Black Swan)*			
81.	30901	*Dacelo novaeguineae (Laughing Kookaburra)*	Y		
82.	25673	*Daphoenositta chrysoptera (Varied Sittella)*			
83.	25607	*Dicaeum hirundinaceum (Mistletoebird)*			
84.	24470	*Dromaius novaehollandiae (Emu)*			
85.		*Egretta garzetta*			
86.		*Egretta novaehollandiae*			
87.		*Elanus axillaris*			
88.	47937	*Elseyornis melanops (Black-fronted Dotterel)*			
89.		*Eolophus roseicapillus*			
90.	24651	*Eopsaltria australis subsp. griseogularis (Western Yellow Robin)*			
91.	24567	*Epthianura albifrons (White-fronted Chat)*			
92.	24379	*Erythrogonys cinctus (Red-kneed Dotterel)*			
93.	25746	*Eudyptula minor (Little Penguin)*			
94.	24818	*Eudyptula minor subsp. novaehollandiae (Little Penguin)*			
95.	25621	*Falco berigora (Brown Falcon)*			
96.	25622	*Falco cenchroides (Australian Kestrel, Nankeen Kestrel)*			
97.	24472	*Falco cenchroides subsp. cenchroides (Australian Kestrel, Nankeen Kestrel)*			
98.	25623	*Falco longipennis (Australian Hobby)*			
99.	25624	*Falco peregrinus (Peregrine Falcon)*		S	
100.	25727	*Fulica atra (Eurasian Coot)*			
101.	24761	*Fulica atra subsp. australis (Eurasian Coot)*			
102.	25729	*Gallinula tenebrosa (Dusky Moorhen)*			
103.	24763	*Gallinula tenebrosa subsp. tenebrosa (Dusky Moorhen)*			
104.	25730	*Gallirallus philippensis (Buff-banded Rail)*			
105.	24765	*Gallirallus philippensis subsp. mellori (Buff-banded Rail)*			
106.	25530	*Gerygone fusca (Western Gerygone)*			
107.	24481	*Glareola maldivarum (Oriental Pratincole)*		IA	

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
108.	24443	*Grallina cyanoleuca (Magpie-lark)*			
109.	24487	*Haematopus longirostris (Pied Oystercatcher)*			
110.	24293	*Haliaeetus leucogaster (White-bellied Sea-Eagle)*			
111.	24295	*Haliastur sphenurus (Whistling Kite)*			
112.	24296	*Hamirostra isura (Square-tailed Kite)*			
113.	47965	*Hieraaetus morphnoides (Little Eagle)*			
114.	25734	*Himantopus himantopus (Black-winged Stilt)*			
115.	24491	*Hirundo neoxena (Welcome Swallow)*			
116.	48587	*Hydroprogne caspia (Caspian Tern)*		IA	
117.	47975	*Ixobrychus dubius (Australian Little Bittern)*		□4	
118.	24511	*Larus novaehollandiae subsp. novaehollandiae (Silver Gull)*			
119.	25638	*Larus pacificus (Pacific Gull)*			
120.	25661	*Lichmera indistincta (Brown Honeyeater)*			
121.	30932	*Limosa lapponica (Bar-tailed Godwit)*		IA	
122.	24690	*Macronectes giganteus (Southern Giant Petrel)*		IA	
123.	24326	*Malacorhynchus membranaceus (Pink-eared Duck)*			
124.	25650	*Malurus elegans (Red-winged Fairy-wren)*			
125.	25654	*Malurus splendens (Splendid Fairy-wren)*			
126.	25758	*Megalurus gramineus (Little Grassbird)*			
127.	24587	*Melithreptus chloropsis (Western White-naped Honeyeater)*			
128.	24598	*Merops ornatus (Rainbow Bee-eater)*			
129.		*Microcarbo melanoleucos*			
130.	48008	*Morus serrator (Australasian Gannet)*			
131.	25610	*Myiagra inquieta (Restless Flycatcher)*			
132.	24738	*Neophema elegans (Elegant Parrot)*			
133.	24739	*Neophema petrophila (Rock Parrot)*			
134.	24798	*Numenius madagascariensis (Eastern Curlew)*		T	
135.	25742	*Numenius phaeopus (Whimbrel)*		IA	
136.	25564	*Nycticorax caledonicus (Rufous Night Heron)*			
137.	24407	*Ocyphaps lophotes (Crested Pigeon)*			
138.	24328	*Oxyura australis (Blue-billed Duck)*		□4	
139.	25680	*Pachycephala rufiventris (Rufous Whistler)*			
140.	24624	*Pachycephala rufiventris subsp. rufiventris (Rufous Whistler)*			
141.	24693	*Pachyptila desolata (Antarctic Prion)*			
142.	48591	*Pandion cristatus (Osprey, Eastern Osprey)*		IA	
143.	25681	*Pardalotus punctatus (Spotted Pardalote)*			
144.	25682	*Pardalotus striatus (Striated Pardalote)*			
145.	24648	*Pelecanus conspicillatus (Australian Pelican)*			
146.	48061	*Petrochelidon nigricans (Tree Martin)*			
147.	48066	*Petroica boodang (Scarlet Robin)*			
148.	24659	*Petroica goodenovii (Red-capped Robin)*			
149.	25697	*Phalacrocorax carbo (Great Cormorant)*			
150.	24664	*Phalacrocorax carbo subsp. novaehollandiae (Great Cormorant)*			
151.	24665	*Phalacrocorax fuscescens (Black-faced Cormorant)*			
152.	25698	*Phalacrocorax melanoleucos (Little Pied Cormorant)*			
153.	24667	*Phalacrocorax sulcirostris (Little Black Cormorant)*			
154.	25699	*Phalacrocorax varius (Pied Cormorant)*			
155.	24409	*Phaps chalcoptera (Common Bronzewing)*			
156.	25587	*Phaps elegans (Brush Bronzewing)*			
157.	48071	*Phylidonyris niger (White-cheeked Honeyeater)*			
158.	24596	*Phylidonyris novaehollandiae (New Holland Honeyeater)*			
159.	24841	*Platalea flavipes (Yellow-billed Spoonbill)*			
160.	25720	*Platycercus icterotis (Western Rosella)*			
161.	24747	*Platycercus spurius (Red-capped Parrot)*			
162.	25721	*Platycercus zonarius (Australian Ringneck, Ring-necked Parrot)*			
163.	24750	*Platycercus zonarius subsp. semitorquatus (Twenty-eight Parrot)*			
164.	24843	*Plegadis falcinellus (Glossy Ibis)*		IA	
165.	24382	*Pluvialis fulva (Pacific Golden Plover)*		IA	
166.	24383	*Pluvialis squatarola (Grey Plover)*		IA	
167.	25703	*Podargus strigoides (Tawny Frogmouth)*			
168.	24679	*Podargus strigoides subsp. brachypterus (Tawny Frogmouth)*			
169.	25704	*Podiceps cristatus (Great Crested Grebe)*			
170.	24681	*Poliocephalus poliocephalus (Hoary-headed Grebe)*			
171.	25722	*Polytelis anthopeplus (Regent Parrot)*			
172.	25731	*Porphyrio porphyrio (Purple Swamphen)*			
173.	24767	*Porphyrio porphyrio subsp. bellus (Purple Swamphen)*			
174.	24769	*Porzana fluminea (Australian Spotted Crake)*			
175.	25732	*Porzana pusilla (Baillon's Crake)*			
176.	24771	*Porzana tabuensis (Spotless Crake)*			
177.		*Purpureicephalus spurius*			

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178.	24776	*Recurvirostra novaehollandiae (Red-necked Avocet)*			
179.	48096	*Rhipidura albiscapa (Grey Fantail)*			
180.	25614	*Rhipidura leucophrys (Willie Wagtail)*			
181.	25534	*Sericornis frontalis (White-browed Scrubwren)*			
182.	30948	*Smicrornis brevirostris (Weebill)*			
183.	24522	*Sterna bergii (Crested Tern)*			
184.	48594	*Sternula nereis (Fairy Tern)*			
185.	24329	*Stictonetta naevosa (Freckled Duck)*			
186.	25597	*Strepera versicolor (Grey Currawong)*			
187.	25589	*Streptopelia chinensis (Spotted Turtle-Dove)*	Y		
188.	25590	*Streptopelia senegalensis (Laughing Turtle-Dove)*	Y		
189.	25705	*Tachybaptus novaehollandiae (Australasian Grebe, Black-throated Grebe)*			
190.	24682	*Tachybaptus novaehollandiae subsp. novaehollandiae (Australasian Grebe, Black-throated Grebe)*			
191.	24331	*Tadorna tadornoides (Australian Shelduck, Mountain Duck)*			
192.	48597	*Thalasseus bergii (Crested Tern)*		IA	
193.	48135	*Thinornis rubricollis (Hooded Plover, Hooded Dotterel)*		□4	
194.	24845	*Threskiornis spinicollis (Straw-necked Ibis)*			
195.	25549	*Todiramphus sanctus (Sacred Kingfisher)*			
196.	48141	*Tribonyx ventralis (Black-tailed Native-hen)*			
197.	24803	*Tringa brevipes (Grey-tailed Tattler)*		□4	
198.	24806	*Tringa glareola (Wood Sandpiper)*		IA	
199.	24808	*Tringa nebularia (Common Greenshank, greenshank)*		IA	
200.	24809	*Tringa stagnatilis (Marsh Sandpiper, little greenshank)*		IA	
201.	48147	*Turnix varius (Painted Button-quail)*			
202.	24852	*Tyto alba subsp. delicatula (Barn Owl)*			
203.	24855	*Tyto novaehollandiae subsp. novaehollandiae (Masked Owl (southwest))*		□3	
204.	25577	*Vanellus miles (Masked Lapwing)*			
205.	24386	*Vanellus tricolor (Banded Lapwing)*			
206.	41351	*Xenus cinereus (Terek Sandpiper)*		IA	
207.	25765	*Zosterops lateralis (Grey-breasted White-eye, Silvereye)*			
□ish					
208.		*Carassius auratus*			
209.	34031	*Carcharodon carcharias (Great White Shark)*		T	
210.		*Edelia vittata*			
211.		*Elops hawaiensis*			
212.	34028	*Galaxias occidentalis (Western Minnow)*			
213.	34027	*Galaxiella nigrostriata (Black-stripe Minnow, black-striped dwarf galaxias)*		T	
214.		*Gambusia affinis*			
215.	34030	*Geotria australis (Pouched Lamprey)*		□3	
216.		*Macroramphosus scolopax*			
217.		*Muraenichthys tasmaniensis*			
218.		*Nannoperca vittata*			
219.		*Ophisurus serpens*			
220.		*Parablennius postoculomaculatus*			
221.		*Pseudogobius olorum*			
222.		*Rachycentron canadum*			
223.		*Scobinichthys granulatus*			
Invertebrate					
224.		*Acariformes sp.*			
225.		*Aeshnidae sp.*			
226.		*Amblyomma triguttatum*			
227.		*Aname mainae*			
228.		*Aname tepperi*			
229.		*Arachnura higginsi*			
230.		*Araneus cyphoxis*			
231.		*Araneus eburneiventris*			
232.		*Araneus senicaudatus*			
233.		*Araneus senicaudatus subsp. simplex*			Y
234.		*Argiope protensa*			
235.		*Argiope trifasciata*			
236.		*Austracantha minax*			
237.		*Backobourkia brounii*			
238.		*Backobourkia heroine*			
239.		*Badumna insignis*			
240.		*Baetidae sp.*			
241.		*Caenidae sp.*			
242.		*Calamoecia clitellata*			
243.		*Ceratopogonidae sp.*			

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244.	33939	*Cherax cainii (Marron)*			
245.		*Cherax destructor*			
246.		*Cherax quinquecarinatus*			
247.		*Chironominae sp.*			
248.		*Coenagrionidae sp.*			
249.		*Corduliidae sp.*			
250.		*Corixidae sp.*			
251.		*Cormocephalus aurantiipes*			
252.		*Cormocephalus strigosus*			
253.		*Culicidae sp.*			
254.		*Dolichopodidae sp.*			
255.		*Dugesiidae sp.*			
256.		*Dytiscidae sp.*			
257.		*Ecnomidae sp.*			
258.		*Ephydridae sp.*			
259.		*Eriophora biapicata*			
260.		*Erpobdellidae sp.*			
261.		*Gomphidae sp.*			
262.		*Gripopterygidae sp.*			
263.		*Gyrinidae sp.*			
264.		*Hemicorduliidae sp.*			
265.		*Henicops dentatus*			
266.		*Hogna crispipes*			
267.		*Hydrobiosidae sp.*			
268.		*Hydrophilidae sp.*			
269.		*Hydropsychidae sp.*			
270.		*Hydroptilidae sp.*			
271.		*Hypsimetopodidae sp.*			
272.		*Hyriidae sp.*			
273.	48935	*Idiosoma sigillatum (Swan Coastal Plain shield-backed trapdoor spider)*		□3	
274.		*Isopeda leishmanni*			
275.		*Ixodes australiensis*			
276.		*Kangarosa properipes*			
277.		*Laetesia mollita*			
278.		*Lampona cylindrata*			
279.		*Latrodectus hasseltii*			
280.		*Leptoceridae sp.*			
281.		*Leptophlebiidae sp.*			
282.		*Libellulidae sp.*			
283.		*Lymnaeidae sp.*			
284.		*Maratus pavonis*			
285.		*Mesoveliidae sp.*			
286.		*Missulena granulosa*			
287.		*Missulena occatoria*			
288.		*Mituliodon tarantulinus*			
289.		*Nephila edulis*			
290.		*Nicodamus mainae*			
291.		*Notonectidae sp.*			
292.		*Nunciella aspera*			
293.		*Oecobius navus*			
294.		*Oligochaeta sp.*			
295.		*Oniscidae sp.*			
296.		*Oniscigastridae sp.*			
297.		*Orthocladiinae sp.*			
298.		*Palaemonidae sp.*			
299.		*Parastacidae sp.*			
300.		*Pentasteron intermedium*			
301.		*Perthiidae sp.*			
302.		*Phryganoporus candidus*			
303.		*Physidae sp.*			
304.		*Raveniella arenacea*			
305.		*Raveniella peckorum*			
306.		*Scirtidae sp.*			
307.		*Scolopendra laeta*			
308.		*Simuliidae sp.*			
309.		*Sphaeriidae sp.*			
310.		*Steatoda capensis*			
311.		*Steatoda grossa*			
312.		*Styloniscidae sp.*			
313.		*Supunna picta*			

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314.		*Synsphyronus magnus*			
315.		*Synthemistidae sp.*			
316.		*Talitridae sp.*			
317.		*Tanypodinae sp.*			
318.		*Tasmanicosa leuckartii*			
319.		*Telephlebiidae sp.*			
320.		*Temnocephalidea sp.*			
321.		*Tetralycosa oraria*			
322.		*Tipulidae sp.*			
323.		*Trachycosmus sculptilis*			
324.		*Urodacus similis*			
325.		*Veliidae sp.*			
326.		*Venator immansueta*			
327.		*Venatrix pullastra*			
328.	34113	*Westralunio carteri (Carter's Freshwater Mussel)*		T	
Mammal					
329.	24088	*Antechinus flavipes subsp. leucogaster (Yellow-footed Antechinus, Mardo)*			
330.	24208	*Arctocephalus forsteri (New Zealand Fur Seal, long-nosed fur-seal)*		S	
331.	24209	*Arctocephalus tropicalis (Subantarctic fur-seal)*		T	
332.	24162	*Bettongia penicillata subsp. ogilbyi (Woylie, Brush-tailed Bettong)*		T	
333.	24086	*Cercartetus concinnus (Western Pygmy-possum, Mundarda)*			
334.	24186	*Chalinolobus gouldii (Gould's Wattled Bat)*			
335.	24092	*Dasyurus geoffroii (Chuditch, Western Quoll)*		T	
336.	24043	*Eubalaena australis (Southern Right Whale)*		T	
337.	24189	*Falsistrellus mackenziei (Western False Pipistrelle, Western Falsistrelle)*		□4	
338.	24041	*Felis catus (Cat)*	Y		
339.	24215	*Hydromys chrysogaster (Water-rat, Rakali)*		□4	
340.	48588	*Isoodon fusciventer (Quenda, southwestern brown bandicoot)*		□4	
341.	24071	*Kogia sima (Dwarf Sperm Whale)*			Y
342.	24132	*Macropus fuliginosus (Western Grey Kangaroo)*			
343.	24051	*Megaptera novaeangliae (Humpback Whale)*		S	
344.	24213	*Mirounga leonina (Southern Elephant Seal)*			
345.	24223	*Mus musculus (House Mouse)*	Y		
346.	24146	*Myrmecobius fasciatus (Numbat, Walpurti)*		T	
347.	24210	*Neophoca cinerea (Australian Sea-lion)*		T	
348.	24194	*Nyctophilus geoffroyi (Lesser Long-eared Bat)*			
349.	24195	*Nyctophilus gouldi (Gould's Long-eared Bat)*			
350.	24085	*Oryctolagus cuniculus (Rabbit)*	Y		
351.	48070	*Phascogale tapoatafa subsp. wambenger (South-western Brush-tailed Phascogale, Wambenger)*		S	
352.	24166	*Pseudocheirus occidentalis (Western Ringtail Possum, ngwayir)*		T	
353.	24245	*Rattus rattus (Black Rat)*	Y		
354.	24145	*Setonix brachyurus (Quokka)*		T	
355.	24111	*Sminthopsis gilberti (Gilbert's Dunnart)*			
356.		*Sminthopsis murina*			
357.	24259	*Sus scrofa (Pig)*	Y		
358.	24158	*Trichosurus vulpecula subsp. vulpecula (Common Brushtail Possum)*			
359.	30954	*Tursiops aduncus (Indo-Pacific Bottlenose Dolphin)*			
360.	24069	*Tursiops truncatus (Bottlenose Dolphin)*			
361.	24206	*Vespadelus regulus (Southern Forest Bat)*			
362.	24040	*Vulpes vulpes (Red Fox)*	Y		
Reptile					
363.	42368	*Acritoscincus trilineatus (Western Three-lined Skink)*			
364.	24990	*Aprasia pulchella (Granite Worm-lizard)*			
365.	25335	*Caretta caretta (Loggerhead Turtle)*		T	
366.	43380	*Chelodina colliei (South-western Snake-necked Turtle)*			
367.	24980	*Christinus marmoratus (Marbled Gecko)*			
368.	30893	*Cryptoblepharus buchananii*			
369.	25027	*Ctenotus australis*			
370.	25039	*Ctenotus fallens*			
371.	25047	*Ctenotus impar*			
372.	25049	*Ctenotus labillardieri*			
373.	41641	*Ctenotus ora (Coastal Plains Skink)*		□3	
374.	25296	*Demansia psammophis subsp. reticulata (Yellow-faced Whipsnake)*			
375.	24939	*Diplodactylus polyophthalmus*			
376.	25251	*Echiopsis curta (Bardick)*			
377.	25096	*Egernia kingii (King's Skink)*			
378.	25100	*Egernia napoleonis*			
379.	25250	*Elapognathus coronatus (Crowned Snake)*			

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380.	25115	*Hemiergis initialis subsp. initialis*			
381.	25117	*Hemiergis peronii subsp. peronii*			
382.	25119	*Hemiergis quadrilineata*			
383.	43384	*Hydrophis platurus (Yellow-bellied Seasnake)*			
384.	25131	*Lerista distinguenda*			
385.	25133	*Lerista elegans*			
386.	25147	*Lerista lineata (Perth Slider, Lined Skink)*		□3	
387.	25005	*Lialis burtonis*			
388.	25184	*Menetia greyii*			
389.	25240	*Morelia spilota subsp. imbricata (Carpet Python)*			
390.	25191	*Morethia lineoocellata*			
391.	25192	*Morethia obscura*			
392.	25248	*Neelaps bimaculatus (Black-naped Snake)*			
393.	25252	*Notechis scutatus (Tiger Snake)*			
394.	25253	*Parasuta gouldii*			
395.	25510	*Pogona minor (Dwarf Bearded Dragon)*			
396.	24907	*Pogona minor subsp. minor (Dwarf Bearded Dragon)*			
397.	25511	*Pseudonaja affinis (Dugite)*			
398.	25259	*Pseudonaja affinis subsp. affinis (Dugite)*			
399.	25266	*Simoselaps bertholdi (Jan's Banded Snake)*			
400.	25519	*Tiliqua rugosa*			
401.	25207	*Tiliqua rugosa subsp. rugosa*			
402.	24983	*Underwoodisaurus milii (Barking Gecko)*			
403.	25218	*Varanus gouldii (Bungarra or Sand Monitor)*			
404.	25225	*Varanus rosenbergi (Heath Monitor)*			

Conservation Codes
T □Rare or likely to become e□tinct
□ □□resumed e□tinct
IA □□rotected under international a□reement
S □□ther specially protected fauna
1 □□riority 1
2 □□riority 2
3 □□riority 3
4 □□riority 4
5 □□riority 5

[1] For NatureMap's purposes, species fla□□ed as endemic are those □hose records are □holely contained □ithin the search area. Note that only those records complyin□ □ith the search criterion are included in the calculation. For e□ample, if you limit records to those from a specific datasource, only records from that datasource are used to determine if a species is restricted to the □uery area.

Australian Government
Department of Agriculture, Water and the Environment

E□BC Act □rotected Matters Report

This report provides □eneral □uidance on matters of national environmental si□nificance and other matters protected by the E□BC Act in the area you have selected. □lease see the caveat for interpretation of information provided here.

Report created□21□Nov□2021

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Summary

Matters of National Environment Si□nificance

This part of the report summarises the matters of national environmental si□nificance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, □hich can be accessed by scrollin□ or follo□in□ the links belo□. If you are proposin□ to undertake an activity that may have a si□nificant impact on one or more matters of national environmental si□nificance then you should consider the Administrative Guidelines on Si□nificance.

World □erita□e □roperties□	None
National □erita□e □laces□	None
Wetlands of International Importance □Ramsar	1
Great Barrier Reef Marine □ark□	None
Common□ealth Marine Area□	None
□isted Threatened Ecolo□ical Communities□	2
□isted Threatened Species□	26
□isted Mi□ratory Species□	10

□ther Matters □rotected by the E□BC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be re□uired for a proposed activity that si□nificantly affects the environment on Common□ealth land, □hen the action is outside the Common□ealth land, or the environment any□here □hen the action is taken on Common□ealth land. Approval may also be re□uired for the Common□ealth or Common□ealth a□encies proposin□ to take an action that is likely to have a si□nificant impact on the

The E□BC Act protects the environment on Common□ealth land, the environment from the actions taken on Common□ealth land, and the environment from actions taken by Common□ealth a□encies. As herita□e values of a place are part of the 'environment', these aspects of the E□BC Act protect the Common□ealth □erita□e values of a Common□ealth □erita□e place. Information on the ne□ herita□e la□s can be found at http□□□□□.environment.□ov.au□herita□e

A permit may be re□uired for activities in or on a Common□ealth area that may affect a member of a listed threatened species or ecolo□ical community, a member of a listed mi□ratory species, □hales and other cetaceans, or a member of a listed marine species.

Common□ealth □ands□	None
Common□ealth □erita□e □laces□	None
□isted Marine Species□	14
Whales and □ther Cetaceans□	None
Critical □abitats□	None
Common□ealth Reserves Terrestrial□	None
Australian Marine □arks□	None
□abitat Critical to the Survival of Marine Turtles□	None

E□ta Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves□	1
Re□ional Forest A□reements□	None
Nationally Important Wetlands□	None
E□BC Act Referrals□	11
□ey Ecolo□ical Features □Marine□□	None
Biolo□ically Important Areas□	None
Biore□ional Assessments□	None
Geolo□ical and Biore□ional Assessments□	None

Details

Matters of National Environmental Si□nificance

Wetlands of International Importance □Ramsar Wetlands□ □Resource Information □

Ramsar Site Name	□ro□imity
□eel□val□orup system	Within 10km of Ramsar site

□isted Threatened Ecolo□ical Communities □Resource Information □

For threatened ecolo□ical communities □here the distribution is □ell kno□n, maps are derived from recovery plans, State ve□etation maps, remote sensin□ ima□ery and other sources. Where threatened ecolo□ical community distributions are less □ell kno□n, e□istin□ ve□etation maps and point location data are used to produce indicative distribution maps.
Status of □ulnerable, Disallo□ed and Ineli□ible are not MNES under the E□BC Act.

Community Name	Threatened Cate□ory	□resence Te□t
Banksia Woodlands of the S□an Coastal □lain ecolo□ical community	Endan□ered	Community likely to occur □ithin area
Tuart □Eucalyptus □omphocephala□ Woodlands and Forests of the S□an Coastal □lain ecolo□ical community	Critically Endan□ered	Community likely to occur □ithin area

□isted Threatened Species □Resource Information □

Status of Conservation Dependent and E□tinct are not MNES under the E□BC Act.
Number is the current name ID.

Scientific Name	Threatened Cate□ory	□resence Te□t
BIRD		
Botaurus poiciloptilus Australasian Bittern □1001□	Endan□ered	Species or species habitat may occur □ithin area
Calidris canutus Red □not, □not □855□	Endan□ered	Species or species habitat may occur □ithin area
Calidris ferru□inea Curle□ Sandpiper □856□	Critically Endan□ered	Species or species habitat likely to occur □ithin area
Calyptorhynchus banksii naso Forest Red□tailed Black□Cockatoo, □arrak □67034□	□ulnerable	Species or species habitat likely to occur □ithin area

Scientific Name	Threatened Cate□ory	□resence Te□t
[Charadrius leschenaultii](#)		
Greater Sand □lover, □ar□e Sand □lover □877□	□ulnerable	Species or species habitat may occur □ithin area
[Falco hypoleucos](#)		
Grey Falcon □929□	□ulnerable	Species or species habitat may occur □ithin area
[□eipoa ocellata](#)		
Malleefo□l □934□	□ulnerable	Species or species habitat likely to occur □ithin area
[Numenius mada□ascariensis](#)		
Eastern Curle□, Far Eastern Curle□ □847□	Critically Endan□ered	Species or species habitat may occur □ithin area
[Rostratula australis](#)		
Australian □ainted Snipe □77037□	Endan□ered	Species or species habitat likely to occur □ithin area
[Sternula nereis nereis](#)		
Australian Fairy Tern □82950□	□ulnerable	Species or species habitat may occur □ithin area
[□anda baudinii listed as Calyptorhynchus baudinii](#)		
Baudin's Black□Cockatoo, □on□□billed Black□cockatoo □87736□	Endan□ered	Breedin□ likely to occur □ithin area
[□anda latirostris listed as Calyptorhynchus latirostris](#)		
Carnaby's Black Cockatoo, Short□billed Black□cockatoo □87737□	Endan□ered	Breedin□ likely to occur □ithin area
FIS□		
[Gala□iella ni□rostriata](#)		
Blackstriped D□arf Gala□ias, Black□ stripe Minno□ □88677□	Endan□ered	Species or species habitat likely to occur □ithin area
MAMMA□		
[Dasyurus □eoffroii](#)		
Chuditch, Western □uoll □330□	□ulnerable	Species or species habitat likely to occur □ithin area
[□seudocheirus occidentalis](#)		
Western Rin□tail □ossum, N□□ayir, Womp, Woder, N□oor, N□oolan□it □25911□	Critically Endan□ered	Species or species habitat likely to occur □ithin area
□□ANT		

Scientific Name	Threatened Cate□ory	□resence Te□t
Andersonia □racilis Slender Andersonia □14470□	Endan□ered	Species or species habitat may occur □ithin area
Austrostipa bron□enae □87808□	Endan□ered	Species or species habitat may occur □ithin area
Caladenia hue□elii □in□ Spider□orchid, Grand Spider□orchid, Rusty Spider□orchid □7309□	Endan□ered	Species or species habitat likely to occur □ithin area
Caladenia procera Carbunup □in□ Spider □rchid □68679□	Critically Endan□ered	Species or species habitat may occur □ithin area
Diuris drummondii Tall Donkey □rchid □4365□	□ulnerable	Species or species habitat likely to occur □ithin area
Diuris micrantha D□arf Bee□orchid □55082□	□ulnerable	Species or species habitat kno□n to occur □ithin area
Diuris purdiei □urdie's Donkey□orchid □12950□	Endan□ered	Species or species habitat likely to occur □ithin area
Drakaea elastica Glossy□leafed □ammer □rchid, Glossy□ leaved □ammer □rchid, Warty □ammer □rchid □16753□	Endan□ered	Species or species habitat kno□n to occur □ithin area
Drakaea micrantha D□arf □ammer□orchid □56755□	□ulnerable	Species or species habitat kno□n to occur □ithin area
Synaphea sp. Fairbrid□e Farm □D. □apenfus 696□ Selena's Synaphea □82881□	Critically Endan□ered	Species or species habitat may occur □ithin area
Synaphea sp. Serpentine □G.R. Brand 103□ □86879□	Critically Endan□ered	Species or species habitat may occur □ithin area

□isted Mi□ratory Species

□Resource Information □

Scientific Name	Threatened Cate□ory	□resence Te□t

Scientific Name	Threatened Cate□ory	□resence Te□t
Mi□ratory Marine Birds		
[Apus pacificus](#) Fork□tailed S□ift □678□		Species or species habitat likely to occur □ithin area
Mi□ratory Terrestrial Species		
[Motacilla cinerea](#) Grey Wa□tail □642□		Species or species habitat may occur □ithin area
Mi□ratory Wetlands Species		
[Actitis hypoleucos](#) Common Sandpiper □59309□		Species or species habitat likely to occur □ithin area
[Calidris acuminata](#) Sharp□tailed Sandpiper □874□		Species or species habitat likely to occur □ithin area
[Calidris canutus](#) Red □not, □not □855□	Endan□ered	Species or species habitat may occur □ithin area
[Calidris ferru□inea](#) Curle□ Sandpiper □856□	Critically Endan□ered	Species or species habitat likely to occur □ithin area
[Calidris melanotos](#) □ectoral Sandpiper □858□		Species or species habitat may occur □ithin area
[Charadrius leschenaultii](#) Greater Sand □lover, □ar□e Sand □lover □877□	□ulnerable	Species or species habitat may occur □ithin area
[Numenius mada□ascariensis](#) Eastern Curle□, Far Eastern Curle□ □847□	Critically Endan□ered	Species or species habitat may occur □ithin area
[Trin□a nebularia](#) Common Greenshank, Greenshank □832□		Species or species habitat likely to occur □ithin area

□ther Matters □rotected by the E□BC Act

□isted Marine Species		□Resource Information □
Scientific Name	Threatened Cate□ory	□resence Te□t
Bird		
Actitis hypoleucos Common Sandpiper □59309□		Species or species habitat likely to occur □ithin area
Apus pacificus Fork□tailed S□ift □678□		Species or species habitat likely to occur □ithin area overfly marine area
Bubulcus ibis as Ardea ibis Cattle E□ret □66521□		Species or species habitat may occur □ithin area overfly marine area
Calidris acuminata Sharp□tailed Sandpiper □874□		Species or species habitat likely to occur □ithin area
Calidris canutus Red □not, □not □855□	Endan□ered	Species or species habitat may occur □ithin area overfly marine area
Calidris ferru□inea Curle□ Sandpiper □856□	Critically Endan□ered	Species or species habitat likely to occur □ithin area overfly marine area
Calidris melanotos □ectoral Sandpiper □858□		Species or species habitat may occur □ithin area overfly marine area
Charadrius leschenaultii Greater Sand □lover, □ar□e Sand □lover □877□	□ulnerable	Species or species habitat may occur □ithin area
□aliaeetus leuco□aster White□bellied Sea□Ea□le □943□		Species or species habitat likely to occur □ithin area

Scientific Name	Threatened Cate□ory	□resence Te□t
Merops ornatus Rainbo□ Bee□eater □670□		Species or species habitat may occur □ithin area overfly marine area
Motacilla cinerea Grey Wa□tail □642□		Species or species habitat may occur □ithin area overfly marine area
Numenius mada□ascariensis Eastern Curle□, Far Eastern Curle□ □847□	Critically Endan□ered	Species or species habitat may occur □ithin area
Rostratula australis as Rostratula ben□halensis □sensu lato□ Australian □ainted Snipe □77037□	Endan□ered	Species or species habitat likely to occur □ithin area overfly marine area
Trin□a nebularia Common Greenshank, Greenshank □832□		Species or species habitat likely to occur □ithin area overfly marine area

E□ta Information

State and Territory Reserves		□Resource Information □
□rotected Area Name	Reserve Type	State
NTWA Bushland covenant □0095□	Conservation Covenant	WA

E□BC Act Referrals			□Resource Information □
Title of referral	Reference	Referral □utcome	Assessment Status
Controlled action			
Clear 2.86 ha of native ve□etation for the purpose of horticulture	2010□5655	Controlled Action	□ost□Approval
□ot 4 Runnymede Road, Wellesley □ □roposed Sand E□traction	2020□8862	Controlled Action	Assessment Approach
Sand E□traction □roject □ot 5 Wellesley Road, Wellesley Shire of □arvey	2021□9034	Controlled Action	Assessment Approach
Sand Minin□ on □ot 7 Runnymede Road	2011□5996	Controlled Action	□ost□Approval
WA □ffshore Windfarm	2021□8961	Controlled Action	Assessment Approach

Title of referral	Reference	Referral □utcome	Assessment Status
Controlled action			
Yarra□adee Water Supply Development	2005□2073	Controlled Action	Completed
Not controlled action			
Improvin□ rabbit biocontrol□releasin□ another strain of R□D□, sthrn t□o thirds of Australia	2015□7522	Not Controlled Action	Completed
INDIG□ Central Submarine Telecommunications Cable	2017□8127	Not Controlled Action	Completed
□emerton □ateral Gas □ipeline □roject	2005□2388	Not Controlled Action	Completed
Not controlled action □particular manner□			
Construct and operate a 132k□ transmission line and up□rade □emerton Terminal Si	2008□4484	Not Controlled Action □□articular Manner□	□ost□Approval
INDIG□ Marine Cable Route Survey □INDIG□ □	2017□7996	Not Controlled Action □□articular Manner□	□ost□Approval

Caveat

1 □□R□□SE

This report is desi□ned to assist in identifyin□ the location of matters of national environmental si□nificance □MNES□and other matters protected by the Environment □rotection and Biodiversity Conservation Act 1999 □Cth□□E□BC Act□□hich may be relevant in determinin□ obli□ations and re□uirements under the E□BC Act.

The report contains the mapped locations of□

- □World and National □erita□e properties□
- □Wetlands of International and National Importance□
- □Common□ealth and State□Territory reserves□
- □distribution of listed threatened, mi□ratory and marine species□
- □listed threatened ecolo□ical communities□and
- □other information that may be useful as an indicator of potential habitat value.

2 DISC□AIMER

This report is not intended to be e□haustive and should only be relied upon as a □eneral □uide as mapped data is not available for all species or ecolo□ical communities listed under the E□BC Act □see belo□□. □ersons seekin□ to use the information contained in this report to inform the referral of a proposed action under the E□BC Act should consider the limitations noted belo□ and □hether additional information is re□uired to determine the e□istence and location of MNES and other protected matters.

Where data are available to inform the mappin□ of protected species, the presence type □e.□. kno□n, likely or may occur□that can be determined from the data is indicated in □eneral terms. It is the responsibility of any person usin□ or relyin□ on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Common□ealth cannot accept responsibility for the conse□uences of any use of the report or any part thereof. To the ma□imum e□tent allo□ed under □overnin□ la□, the Common□ealth □ill not be liable for any loss or dama□e that may be occasioned directly or indirectly throu□h the use of, or reliance

3 DATA S□ □RCES

Threatened ecolo□ical communities

For threatened ecolo□ical communities □here the distribution is □ell kno□n, maps are □enerated based on information contained in recovery plans, State ve□etation maps and remote sensin□ ima□ery and other sources. Where threatened ecolo□ical community distributions are less □ell kno□n, e□istin□ ve□etation maps and point location data are used to produce indicative distribution maps.

Threatened, mi□ratory and marine species

Threatened, mi□ratory and marine species distributions have been discerned throu□h a variety of methods. Where distributions are □ell kno□n and if time permits, distributions are inferred from either thematic spatial data □i.e. ve□etation, soils, □eolo□y, elevation, aspect, terrain, etc.□to□ether □ith point locations and described habitat□or modelled □MA□ENT or BI□C□IM habitat modellin□□usin□

Where little information is available for a species or lar□e number of maps are re□uired in a short time□frame, maps are derived either from 0.04 or 0.02 decimal de□ree cells□by an automated process usin□ poly□on capture techni□ues □static t□o kilometre □rid cells, alpha□hull and conve□hull□□or captured manually or by usin□ topo□raphic features □national park boundaries, islands, etc.□

In the early sta□es of the distribution mappin□ process □1999□early 2000s□distributions □ere defined by de□ree blocks, 100□ or 250□ map sheets to rapidly create distribution maps. More detailed distribution mappin□ methods are used to update these distributions

4 □IMITATI□NS

The follo□in□ species and ecolo□ical communities have not been mapped and do not appear in this report□

- □threatened species listed as e□tinct or considered va□rants□
- □some recently listed species and ecolo□ical communities□
- □some listed mi□ratory and listed marine species, □hich are not listed as threatened species□and
- □mi□ratory species that are very □idespread, va□rant, or only occur in Australia in small numbers.

The follo□in□ □roups have been mapped, but may not cover the complete distribution of the species□

- □listed mi□ratory and□or listed marine seabirds, □hich are not listed as threatened, have only been mapped for recorded
- □seals □hich have only been mapped for breedin□ sites near the Australian continent

The breedin□ sites may be important for the protection of the Common□ealth Marine environment.

Refer to the metadata for the feature □roup □usin□ the Resource Information link□for the currency of the information.

Ackno□led□ements

This database has been compiled from a ran□e of data sources. The department ackno□led□es the follo□in□ custodians □ho have contributed valuable data and advice□

- □□ffice of Environment and □erita□e, Ne□ South Wales
- □Department of Environment and □rimary Industries, □ictoria
- □Department of □rimary Industries, □arks, Water and Environment, Tasmania
- □Department of Environment, Water and Natural Resources, South Australia
- □Department of □and and Resource Mana□ement, Northern Territory
- □Department of Environmental and □erita□e □rotection, □ueensland
- □Department of □arks and Wildlife, Western Australia
- □Environment and □lannin□ Directorate, ACT
- □Birdlife Australia
- □Australian Bird and Bat Bandin□ Scheme
- □Australian National Wildlife Collection
- □Natural history museums of Australia
- □Museum □ictoria
- □Australian Museum
- □South Australian Museum
- □□ueensland Museum
- □□nline □oolo□ical Collections of Australian Museums
- □□ueensland □erbarium
- □National □erbarium of NSW
- □Royal Botanic Gardens and National □erbarium of □ictoria
- □Tasmanian □erbarium
- □State □erbarium of South Australia
- □Northern Territory □erbarium
- □Western Australian □erbarium
- □Australian National □erbarium, Canberra
- □□niversity of Ne□ En□land
- □□cean Bio□eo□raphic Information System
- □Australian Government, Department of Defence
- Forestry Corporation, NSW
- □Geoscience Australia
- □CSIR□
- □Australian Tropical □erbarium, Cairns
- □eBird Australia
- □Australian Government □ Australian Antarctic Data Centre
- □Museum and Art Gallery of the Northern Territory
- □Australian Government National Environmental Science □ro□ram
- □Australian Institute of Marine Science
- □Reef □ife Survey Australia
- □American Museum of Natural □istory
- □□ueen □ictoria Museum and Art Gallery, Inveresk, Tasmania
- □Tasmanian Museum and Art Gallery, □obart, Tasmania
- □□ther □roups and individuals

The Department is e□tremely □rateful to the many or□anisations and individuals □ho provided e□pert advice and information on numerous draft distributions.

APPENDIX C

OBSERVED FAUNA LISTING

Fauna Observed During Survey Period

Lot 7 Runnymede Road, Wellesley

Compiled by Greg Harewood - Nov 2021

Class **Family** *Species*	Common Name	Conservation Status
Aves		
Psittacidae Parrots		
Calyptorhynchus banksii naso	Forest Red-tailed Black-Cockatoo	S3 VU Bp
Calyptorhynchus latirostris	Carnaby's Black Cockatoo	S2 EN Bp EN
Platycercus spurius	Red-capped Parrot	LC
Platycercus zonarius	Australian Ringneck	LC
Halcyonidae Tree Kingfishers		
Dacelo novaeguineae	Laughing Kookaburra	Introduced
Acanthizidae Thornbills, Geryones, Fieldwrens & Whitefaces		
Acanthiza apicalis	Broad-tailed Thornbill	Bh LC
Gerygone fusca	Western Gerygone	LC
Smicrornis brevirostris	Weebill	Bh LC
Pardalotidae Pardalotes		
Pardalotus striatus	Striated Pardalote	LC
Meliphagidae Honeyeaters, Chats		
Anthochaera carunculata	Red Wattlebird	LC
Pachycephalidae Crested Shrike-tit, Crested Bellbird, Shrike Thrushes, Whistlers		
Pachycephala rufiventris	Rufous Whistler	LC
Dicruridae Monarchs, Magpie Lark, Flycatchers, Fantails, Drongo		
Rhipidura fuliginosa	Grey Fantail	LC

BC Act Status - S1 to S7, EPBC Act Status - CR = Critically Endangered, EN = Endangered, VU = Vulnerable, EX = Extinct, DBCA Priority Status - P1 to P4, Bush Forever Decreaser Species - Bh = habitat specialists, Bp = wide ranging species, Be = extinct in Perth Coastal Plain Region, Int. Agmts - CA = CAMBA, JA = JAMBA, RK = ROKAMBA, IUCN Red List Category Definitions LC = Least Concern - see http://www.iucnredlist.org/technical-documents/categories-and-criteria/2001-categories-criteria for others.

Class **Family** *Species*	Common Name	Conservation Status
Campephagidae Cuckoo-shrikes, Trillers		
Coracina novaehollandiae	Black-faced Cuckoo-shrike	LC
Cracticidae Currawongs, Magpies & Butcherbirds		
Cracticus tibicen	Australian Magpie	LC
Cracticus torquatus	Grey Butcherbird	LC
Mammalia		
Phalangeridae Brushtail Possums, Cuscuses		
Trichosurus vulpecula	Common Brushtail Possum	LC
Macropodidae Kangaroos, Wallabies		
Macropus fuliginosus	Western Grey Kangaroo	LC

BC Act Status - S1 to S7, EPBC Act Status - CR = Critically Endangered, EN = Endangered, VU = Vulnerable, EX = Extinct, DBCA Priority Status - P1 to P4, Bush Forever Decreaser Species - Bh = habitat specialists, Bp = wide ranging species, Be = extinct in Perth Coastal Plain Region, Int. Agmts - CA = CAMBA, JA = JAMBA, RK = ROKAMBA, IUCN Red List Category Definitions LC = Least Concern - see http://www.iucnredlist.org/technical-documents/categories-and-criteria/2001-categories-criteria for others.

APPENDIX D

HABITAT TREE DETAILS

WPT	Coordinates (MGA 94/Z50)	383529 mE	6332512mN	Tree Species	Dead Unknown	Survey Date	7/10/2021
17	Comments	Dead tree with several spout type hollows and one large hollow in the fork of two branches. This hollow shows significant chew marks along one edge (upper rim of hollow shown in photograph below). This is suggestive of the hollow having been used by black cockatoos for breeding in the past.				Classification	Chewed Hollow.





WPT	Coordinates (MGA 94/Z50)	383449 mE	6332451 mN	Tree Species	Marri	Survey Date	07/10/2021
64	**Comments**	Marri with one large side entry hollow. Appears to have rub marks around base of hollow entrance which suggest use by fauna such as possums.				**Classification**	Unused Hollow.





Habitat Trees
DBH >50cm
Datum - GDA94
Entrance Size Ranges - Small = >5cm, Medium = 5 to 10cm, Large = >10cm

Waypoint Number	Zone	mE	mN	Tree Species	DBH (cm)	Tree Height (m)	Number of Hollows	Estimated Hollow Entrance Size Range (cm)	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt001	50	383757	6332578	Marri	>50	15-20	0					
wpt002	50	383779	6332574	Marri	>50	15-20	0					
wpt003	50	383798	6332586	Marri	>50	15-20	0					
wpt004	50	383760	6332575	Marri	>50	15-20	0					
wpt006	50	383684	6332548	Marri	>50	15-20	0					
wpt007	50	383630	6332535	Marri	>50	15-20	0					
wpt008	50	383631	6332531	Marri	>50	15-20	0					
wpt009	50	383601	6332558	Marri	>50	15-20	0					
wpt010	50	383590	6332560	Marri	>50	15-20	0					
wpt011	50	383578	6332560	Marri	>50	15-20	0					
wpt012	50	383571	6332557	Marri	>50	15-20	0					
wpt013	50	383575	6332548	Marri	>50	15-20	0					
wpt014	50	383562	6332522	Marri	>50	15-20	0					
wpt015	50	383552	6332524	Jarrah	>50	15-20	0					
wpt016	50	383545	6332521	Marri	>50	15-20	0					
wpt017	50	383529	6332512	Dead Unknown	>50	10-15	2+	Large (cockatoo)	No Signs	Cockatoos	Yes	Examined with drone -Several spouts and chimney - evidence of chewing around chimney
wpt018	50	383510	6332529	Marri	>50	15-20	0					
wpt019	50	383497	6332520	Dead Unknown	>50	10-15	0					
wpt020	50	383498	6332570	Marri	>50	10-15	0					
wpt021	50	383497	6332570	Jarrah	>50	20+	0					
wpt022	50	383472	6332533	Marri	>50	15-20	0					
wpt023	50	383435	6332523	Marri	>50	15-20	0					
wpt024	50	383407	6332527	Dead Marri	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	
wpt025	50	383389	6332546	Marri	>50	20+	2+	Small	No Signs	No Signs	No	
wpt026	50	383404	6332496	Marri	>50	15-20	0					
wpt027	50	383403	6332488	Marri	>50	15-20	0					
wpt028	50	383399	6332448	Marri	>50	15-20	0					
wpt029	50	383431	6332445	Jarrah	>50	15-20	0					
wpt030	50	383424	6332409	Dead Unknown	>50	0-5	1	Large	No Signs	No Signs	No	Too shallow
wpt031	50	383469	6332356	Marri	>50	15-20	0					
wpt032	50	383459	6332353	Jarrah	>50	5-10	0					
wpt033	50	383456	6332320	Jarrah	>50	15-20	0					
wpt034	50	383472	6332317	Marri	>50	15-20	0					
wpt035	50	383480	6332296	Jarrah	>50	10-15	0					Examined with drone - Possible hollows too shallow/non existent
wpt036	50	383475	6332295	Marri	>50	10-15	0					
wpt037	50	383475	6332276	Jarrah	>50	0-5	0					
wpt038	50	383493	6332286	Jarrah	>50	15-20	2+	Small	No Signs	No Signs	No	
wpt039	50	383475	6332274	Jarrah	>50	0-5	0					

Waypoint Number	Zone	mE	mN	Tree Species	DBH (cm)	Tree Height (m)	Number of Hollows	Estimated Hollow Entrance Size Range (cm)	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt040	50	383451	6332256	Jarrah	>50	5-10	0					Examined with drone - Possible hollow too shallow/non existent
wpt041	50	383482	6332259	Jarrah	>50	10-15	0					
wpt042	50	383505	6332256	Jarrah	>50	20+	0					
wpt043	50	383525	6332267	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	
wpt044	50	383523	6332261	Jarrah	>50	10-15	0					
wpt045	50	383546	6332275	Dead Unknown	>50	0-5	0					
wpt046	50	383564	6332296	Marri	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	
wpt047	50	383566	6332282	Jarrah	>50	10-15	0					
wpt048	50	383607	6332257	Marri	>50	15-20	0					
wpt049	50	383648	6332262	Jarrah	>50	15-20	0					
wpt050	50	383616	6332302	Marri	>50	15-20	0					
wpt051	50	383603	6332317	Jarrah	>50	15-20	0					
wpt052	50	383610	6332333	Jarrah	>50	10-15	0					
wpt053	50	383637	6332344	Jarrah	>50	10-15	0					
wpt054	50	383642	6332364	Jarrah	>50	10-15	0					
wpt055	50	383641	6332363	Jarrah	>50	10-15	0					
wpt056	50	383641	6332407	Jarrah	>50	15-20	0					
wpt057	50	383641	6332426	Jarrah	>50	10-15	2+	Small	No Signs	No Signs	No	
wpt058	50	383652	6332479	Jarrah	>50	15-20	0					
wpt059	50	383639	6332501	Jarrah	>50	5-10	1	Large	No Signs	No Signs	No	Too low and shallow
wpt060	50	383613	6332489	Jarrah	>50	10-15	0					
wpt061	50	383595	6332520	Marri	>50	15-20	0					
wpt062	50	383565	6332471	Jarrah	>50	5-10	1	Large	No Signs	No Signs	No	Examined with drone - Possible hollows too shallow/non existent
wpt063	50	383515	6332493	Marri	>50	15-20	0					
wpt064	50	383449	6332451	Marri	>50	15-20	2+	Large (cockatoo)	No Signs	No Signs	Yes	Examined with drone - large side entry - some rub marks
wpt065	50	383476	6332414	Marri	>50	10-15	1	Large	No Signs	No Signs	No	Examined with drone - Chimney type hollow too shallow
wpt066	50	383479	6332403	Marri	>50	20+	2+	Small-Medium	No Signs	No Signs	No	
wpt067	50	383482	6332380	Dead Marri	>50	15-20	2+	Large	No Signs	No Signs	No	Examined with drone - Side entry and chimney type hollow too shallow
wpt068	50	383485	6332373	Jarrah	>50	15-20	0					
wpt069	50	383517	6332341	Marri	>50	15-20	0					
wpt070	50	383520	6332340	Marri	>50	15-20	0					
wpt071	50	383532	6332335	Marri	>50	15-20	0					
wpt072	50	383529	6332348	Jarrah	>50	15-20	0					
wpt073	50	383555	6332327	Dead Marri	>50	15-20	0					
wpt074	50	383561	6332321	Dead Marri	>50	15-20	0					
wpt075	50	383557	6332350	Jarrah	>50	15-20	0					
wpt076	50	383544	6332356	Jarrah	>50	10-15	2+	Small-Medium	No Signs	No Signs	No	
wpt077	50	383515	6332358	Jarrah	>50	15-20	0					
wpt078	50	383568	6332328	Dead Unknown	>50	0-5	0					
wpt079	50	383595	6332351	Marri	>50	15-20	0					
wpt080	50	383598	6332368	Jarrah	>50	15-20	0					

Waypoint Number	Zone	mE	mN	Tree Species	DBH (cm)	Tree Height (m)	Number of Hollows	Estimated Hollow Entrance Size Range (cm)	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt081	50	383603	6332417	Dead Unknown	>50	10-15	0					Examined with drone - Possible side entry and chimney type hollow non existant
wpt082	50	383608	6332430	Jarrah	>50	15-20	0					
wpt083	50	383592	6332447	Jarrah	>50	15-20	0					
wpt084	50	383584	6332431	Jarrah	>50	15-20	0					
wpt085	50	383564	6332431	Jarrah	>50	15-20	0					
wpt086	50	383542	6332433	Jarrah	>50	15-20	0					
wpt087	50	383541	6332448	Jarrah	>50	15-20	0					
wpt088	50	383527	6332432	Dead Marri	>50	15-20	2+	Large	Bees	No Signs	No	Examined with drone - Possible side entry obstructed and appears small internally
wpt089	50	383518	6332420	Marri	>50	20+	2+	Small-Medium	No Signs	No Signs	No	
wpt090	50	383547	6332409	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	
wpt091	50	383561	6332393	Dead Unknown	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	
wpt092	50	383571	6332382	Jarrah	>50	15-20	0					

DISCLAIMER

This fauna assessment report ("the report") has been prepared in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and Greg Harewood ("the Author"). In some circumstances the scope of services may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints. In accordance with the scope of services, the Author has relied upon the data and has conducted environmental field monitoring and/or testing in the preparation of the report. The nature and extent of monitoring and/or testing conducted is described in the report.

The conclusions are based upon field data and the environmental monitoring and/or testing carried out over a limited period of time and are therefore merely indicative of the environmental condition of the site at the time of preparing the report. Also it should be recognised that site conditions, can change with time.

Within the limitations imposed by the scope of services, the field assessment and preparation of this report have been undertaken and performed in a professional manner, in accordance with generally accepted practices and using a degree of skill and care ordinarily exercised by reputable environmental consultants under similar circumstances. No other warranty, expressed or implied, is made.

In preparing the report, the Author has relied upon data, surveys, analyses, designs, plans and other information provided by the Client and other individuals and organisations, most of which are referred to in the report ("the data"). Except as otherwise stated in the report, the Author has not verified the accuracy of completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the report ("conclusions") are based in whole or part on the data, those conclusions are contingent upon the accuracy and completeness of the data. The Author will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to the Author.

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The Author will not be liable to update or revise the report to take into account any events or emergent circumstances or facts occurring or becoming apparent after the date of the report.

Reconnaissance Vegetation Survey

Lot 7 Runnymede Road, Wellesly



July 2022

REPORT PREPARED BY
LUNDSTROM ENVIRONMENTAL CONSULTANTS PTY LTD

INTRODUCTION

Background

B & J Catalano Pty Ltd (Catalano) operates as a Basic Raw Materials (BRM) extractor in the south west of Western Australia (WA) and is currently investing in the expansion of their Lot 7 Runnymede Rd sand quarry. Lundstrom Environmental Consultants (LEC) was commissioned by Catalano to undertake a reconnaissance vegetation and vegetation condition assessment of 1.2ha in the north western portion of native vegetation on Lot 7, Runneymede Rd, Wellesley (see Figure 1). This 1.2ha area is the subject of planning approval and native vegetation clearing applications for the purpose of sand extraction.

Objective and Scope

The main objective was to ascertain the vegetation condition of the north western (1.2h) portion of native vegetation at Lot 7, Runnymede Rd, Wellesley. A previous flora and vegetation survey by Dr Shane Chalwell in 2018 had broadly assessed and mapped approximately 16ha of vegetation which partially included this (July 2022) survey area.

In addition, this report brings into focus the fauna data that was collected in October 2021 by Greg Harewood with only data relevant to the 1.2ha footprint utilised.

METHODS

Reconnaissance Survey

A Reconnaissance Survey was considered the appropriate survey type for this assessment, given the previous surveys and reports assessment of the site values.

Initially the area was accurately pegged to ensure that all data that was collected was within the proposed clearing footprint.

The methodology used was to systematically traverse the survey area, and collect the following information and data:

- Identification of characteristic flora;
- Opportunistic species identification;
- Supplementary data;
- Vegetation transition and boundaries;
- Vegetation condition;
- Evidence of disturbance; and
- Introduced pests/weeds and disease.

The assessment was conducted by G. Maling, who has a BSc Environmental Restoration, Diploma in Horticulture (WA Flora), and BSc Botany (Underway), and relevant experience within the Swan Coastal Plan bioregion.

RESULTS

Vegetation Structure and Description

The key characteristic overstorey species observed and identified were *Agonis flexuosa, Eucalyptus marginata, Corymbia calophylla* and one specimen of *Banksia attenuata*. There was limited understorey in the majority of the survey area. Although, there were patches of *Dasypogon bromeliifolius* and *Hibbertia hypericoides*, with a few isolated specimens of *Caustis dioica*, *Macrozamia riedlei*, *Melaleuca thymoides* observed in the southeastern portion of the survey area.

The vegetation condition and species occurrence does not have the characteristics associated with the Banksia Woodland Threatened Ecological Community (TEC). Largely due to vegetation condition associated with edge effects.

Vegetation Condition Rating

The condition of vegetation was assessed and coarsely mapped as transitioning from east to west as 'Good' to 'Degraded' to predominately 'Completely Degraded' (see Figure 2) using the vegetation condition scales outlined in Keighery (1994). Photographs were taken of the typical vegetation condition (see Appendix 1). The vegetation condition extent/area in hectares is summarised in Table 1. A description of the condition scale is summarised in Table 2.

Table 1 Vegetation Condition Extent in the Survey Area

Condition	Area (ha)	% of 1.2ha
Completely Degraded	0.62	53%
Degraded	0.37	32%
Good	0.18	15%
Total	1.17	100%

DRAFT

Table 2 Vegetation Condition Scale (adapted from Keighery 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance or damage caused by human activities since European settlement
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species. Damage to trees caused by fire, the presence of non-aggressive weeds and occasional vehicle tracks.
Very Good	Vegetation structure altered, obvious signs of disturbance. Disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneratior but not to a state approaching good condition without intensive management. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds at high density, partial clearing, dieback and grazing.
Completely Degraded	The structure of the vegetation is no longer intact, and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees and shrubs.

FAUNA SURVEY

The October 2021 fauna assessment by Greg Harewood has been used to extracted data from a larger survey footprint of 9.9ha and identified data only within the 1.2ha subject area.

Methods used by Greg Harewood for this survey were to assess the diameter of the trees using a pre-constructed gauge. Where a large tree (DBH[1]>50cm) was thought to have hollows, a drone was launched and close up photographs taken to examine the hollows, if present.

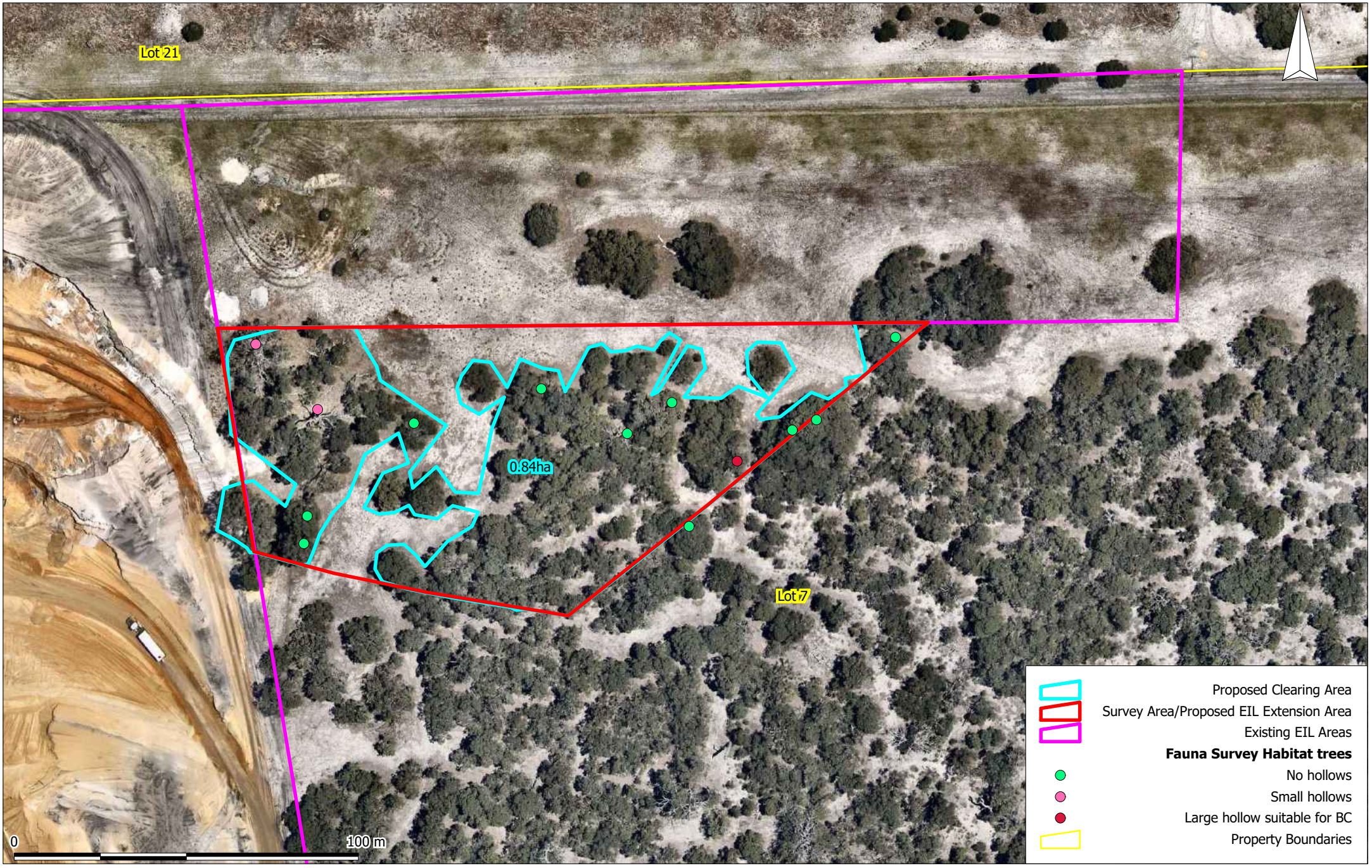
In summary, the fauna survey which covers this area shows that there is one tree with a hollow suitable for black cockatoo nesting (not used), two trees with small to medium hollows and a total of 9 trees with a DBH>50cm only. Figure 1 illustrates the location of these trees.

CONCLUSION

Based on this most recent vegetation survey, it is concluded that the vegetation that is the subject of the refused Planning application for sand extraction has a much lower vegetation condition than originally identified by the 2018 Flora Survey.

I addition, the examination of the fauna habitat within the 1.2ha area does not show that there are cockatoo habitat issues that cannot be managed by the replanting of the area after extraction and by deployment of cockatoo nesting boxes within reasonably close proximity on other areas of the property.

[1] Diameter at Breast Height



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Scale: 1:1400
Original Size: A4
Air Photo Source: Nearmap Nov 2021
Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Sand Extraction
Location: Lot 7 Runnymede Rd, Wellesley

Figure 1:
Survey Area

\\lecserver\data\Catalano\Runnymede Rd Lots 4 & 7_Wellesley_SoH_Sand\Lot 7 Runnymede Rd\Lot 7 Runnymede Ministerial Briefing\Vegetation Survey LEC Jul2022\Drawings\Lot 7 Survey area.m



Lundstrom Environmental Consultants Pty Ltd
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Mob: 0417934863, mikelund1@bigpond.com

Scale: 1:910
Original Size: A4
Air Photo Source: Nearmap Nov 2021
Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Sand Extraction
Location: Lot 7 Runnymede Rd, Wellesley

Figure 2:

Vegetation Condition

\\lecserver\DATA\Catalano\Runnymede Rd Lots 4 & 7_Wellesley_SoH_Sand\Lot 7 Runnymede Rd\Lot 7 Runnymede Ministerial Briefing\Vegetation Survey LEC Jul2022\Drawings\F2 Lot 7 Veg Survey 2022.map 15/07/2022 Layout

APPENDICES

Appendix 1

Photographs Illustrating the Vegetation Condition of the Proposed Clearing Footprint

<table>
<tr>
<td> 

Photograph of Completely Degraded areas within the northwestern corner</td>
<td> 

Photograph of Completely Degrade area to the north facing west</td>
</tr>
<tr>
<td> 

Photograph of Dedgraded area facing south west</td>
<td> 

Photograph of Dedgraded area facing south west</td>
</tr>
</table>







Areas of Degraded vegetation within the middle of the 1.2ha area



Areas of Degraded vegetation within the middle of the 1.2ha area



Area of Good vegetation condition in the southeast of the proposed clearing footprint



Area of Good vegetation condition in the southeast of the proposed clearing footprint

Runnymede Road Sand Quarry

Application Number: **01159** Commencement Date: **02/05/2022** Status: **Locked**

1. About the project

1.1 Project details

Project title *

Runnymede Road Sand Quarry

Project industry type *

Mining

Project industry sub-type

Other

Estimated start date *

1/08/2022

Estimated end date *

1/08/2027

1.2 Proposed Action details

Provide an overview of the proposed action, including all proposed activities. *

It is proposed to extract a total of approximately 70,000m3 of sand from an area of 1.19ha immediately to the east and south of the existing approved sand quarry on Lot 7 Runnymede Rd, Wellesley, Shire of Harvey. The existing sand quarry consists of the original 15.6ha over Stages 1 to 3, plus 1.9ha for the recently approved Stage 4.

The new area is considered an extension of Stage 4 of Lot 7 Runnymede Rd Sand Quarry and has been delineated to accommodate Main Roads WA sand quarry on the adjacent property Lot 21 Runnymede Rd (north of Lot 7) – sand is required for the scheduled road extensions in the greater Bunbury area, in particular the Bunbury Outer Ring Road (BORR). The new extraction area will require the clearing of 0.84ha of native vegetation.

For the purposes of this referral, the Project Area is a total of 53.2ha and is defined as all un-mined land with sand resources on Lot 7 Runnymede Rd plus the proposed sand extraction area. The proposed sand extraction area (1.19ha) has been captured as the disturbance footprint, however the impact/clearing area is only 0.84ha as the proposed sand extraction area is sparsely vegetated with areas of no vegetation. The Avoidance area (52.0ha) is the Project area minus the disturbance footprint (53.2 – 1.19 = 52.0ha).

A summary of proposed mining actions is as follows:

• The extraction area will be cleared of native vegetation by mechanical means. Cleared vegetation will be windrowed and used for rehabilitation.
• The active area will be stripped of topsoil, which will be placed in stockpiles within the extraction area.
• Within the active cell, sand will be excavated using a front-end loader and bulldozer. The sand may be moved to the existing quarry for screening, or may be hauled as raw product, depending on product demand.

• Trucks will enter the pit from Runnymede Road to be loaded from product stockpiles by a front-end loader.
• The depth of the excavation within the new extraction area is constrained by the fact that the entire area needs to serve as a batter to the Main Roads pit on Lot 21 Runnymede Rd (adjacent to, and north of, Lot 7). Excavation will only proceed until a minimum of approximately 16m AHD is reached in the northwestern corner of of the disturbance footprint. The final landsurface will slope upwards to the north-eastern

corner which will have final elevation of approximately 33m AHD.
• Stable batters will be achieved at the completion of landsurface rehabilitation, with the whole area (Stage 4) ripped and recontoured and rehabilitated to pastures.

• A 2.61ha area within the existing pit will be planted with endemic native species suitable for black cockatoo habitat.

No hydrocarbons will be stored on site and refueling will be undertaken with a mobile fuel truck fitted with appropriate spill prevention equipment.

Operating times will be Monday to Friday 0600hrs to 1800hrs and Saturday 0700hrs to1200hrs.

Full details of the proposed mining operations and figures are included in the Extractive Industry Licence Application & Environmental Management Plan (EMP) report that was submitted to the Shire of Harvey and is included as Attachment 1.

Is the project action part of a staged development or related to other actions or proposals in the region?

Yes

Is the proposed action the first stage of a staged development (or a larger project)?

No

Related referral(s)

EPBC Number	Project Title
2011/5996	Sand Mining on Lot 7 Runnymede Road

Provide information about the staged development (or relevant larger project).

The proposed extraction area will be part of the existing sand quarry operations on Lot 7 Runnymede Rd and is considered an extension of Stage 4 of said operations. Extraction in Stage 4 will join into the adjoining Main Roads WA Lot 21 Runnymede sand quarry along the northern boundary of Stage 4.

The proponent also operates the sand quarry on the adjacent property to the south (Lot 4 Runnymede Rd) which utilises the same access road.

What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

A Development Approval (DA) and extractive industries licence (EIL) application was submitted to the Shire of Harvey on 30th September 2021. A development refusal was returned from the Shire on 15 February 2022. The refusal has been referred to the WA Minister for Planning, who has called in the application pursuant to section 246(2)(a) of the *Planning and Development Act 2005* (WA) and an outcome is expected within the month.

A Works Approval under Part V of the *Environmental Protection Act 1986* (WA), through the Department of Water and Environmental Regulation (DWER) has been granted for both Lots 4 and 7 Runnymede Rd sand quarries. A Licence has been applied for but has not yet been granted. The Works Approval and Licence are for the emissions of noise, dust and water from the screening operations, which are located within the currently approved quarry areas. No screening is proposed within the Stage 4 EIL area or the proposed disturbance area.

Clearing of 0.84ha of native vegetation will be required. A clearing permit under the *Environmental Protection Act 1986* (Part V) will be required from DWER, however an application has been delayed in order to request to proceed under the assessment bilateral agreement if the proposed action were to be found a controlled action.

The *EPBC Act referral guidelines for three threatened Black cockatoo species: Carnaby's cockatoo (endangered) Calyptorhynchus latirostris, Baudin's cockatoo (vulnerable) Calyptorhynchus baudinii, Forest red-tailed black cockatoo (vulnerable) Calyptorhynchus banksii naso* (DSEWPaC 2012) is relevant to the proposed action. The property is mapped as Baudin's Black Cockatoo "breeding likely to occur within area", with this species listed as Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Forest Red tailed Black Cockatoo and Carnaby's Black Cockatoo have been mapped as "species or species habitat likely to occur within area" within a 5km buffer, with these species listed as Vulnerable and Endangered respectively under the EPBC Act. The proposed extraction area has been surveyed and 13 habitat trees have been identified within the clearing footprint.

Similar to the above, the *Matters of National Environmental Significance Significant Impact Guidelines 1.1* (DEWHA 2013) sets out significant impact criteria for endangered and vulnerable species listed under the EPBC Act such as the black cockatoos.

The proposed action does not meet the significance criteria for referral under Part IV of the *Environmental Protection Act 1986* (WA).

Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

All aspects of the Lot 7 sand quarry operations have been publicly advertised under the various approval processes, including Shire approvals and DWER clearing permit and Works Approvals. Furthermore, B&J Catalano maintain all EPBC Act referral documents on their website for public access and comment.

Indigenous stakeholders have been consulted in regard to both the Lot 7 and Lot 4 Runnymede Rd sand quarry operations, with several archaeological surveys having taken place, the most recent in July 2021. The latest Aboriginal heritage survey (2021), which includes a record of consultation with Indigenous stakeholders for both Lots 7 and 4 Runnymede Rd properties, including the full extent of the Project area, is included in Attachment 5 (Att 5. Aboriginal heritage survey 2021).

1.3 Identity - Referring party

Privacy Notice:

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

The Department of Agriculture, Water and the Environment (the department) collects your personal information (as defined by the Privacy Act 1988) through this platform for the purposes of enabling the department to consider your submission and contact you in relation to your submission. If you fail to provide some or all of the personal information requested on this platform (name and email address), the department will be unable to contact you to seek further information (if required) and subsequently may impact the consideration given to your submission.

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☑ **Confirm that you have read and understand this Privacy Notice ***

Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN	87600398945
Organisation name	Lundstrom Environmental Consultants Pty Ltd
Organisation address	21 Sellen Court, LEEMING W.A. 6149

Referring party details

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Phone	0417934863
Email	admin@lundstrom-environmental.com.au
Address	21 Sellen Court Leeming, WA 6149

1.3 Identity - Person proposing to take the action

Are the Person proposing to take the action details the same as the Referring party details? *

No

Is Person proposing to take the action an organisation or business? *

Yes

Person proposing to take the action organisation details

ABN	008961975
Organisation name	B&J Catalano Pty Ltd
Organisation address	South Western Highway, Brunswick Junction W.A. 6224

Person proposing to take the action details

Name	Peter Bennett
Job title	Compliance Manager
Phone	0407 857 026
Email	peterbennett@catalano.com.au
Address	South Western Highway, Brunswick Junction W.A. 6224

Are you proposing the action as part of a Joint Venture? *

No

Are you proposing the action as part of a Trust? *

No

Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

B&J Catalano Pty Ltd has been in operation as a Basic Raw Material (BRM) extractor for over 50 years within the South West region and currently operates forty sand, gravel and limestone quarries located throughout metropolitan, Mid West and South West regions of Western Australia. The company has attained ISO9001 Quality Management Systems, AS4801 Occupational Health and Safety (OH&S) Management Systems, and ISO14001 Environment Management Systems certifications. The Environmental and OH&S Management Systems certifications, together with the company's Environmental Policy are included in Attachment 2.

B&J Catalano engages suitably qualified and experienced environmental consultants, with whom they have worked for the past 20 years, to undertake their environmental approval applications and prepare associated environmental documents to ensure compliance with Local, State and Federal environmental commitments. A series of environmental management plans (rehabilitation, water, noise, dieback, weed, dust) are prepared for each of the excavation sites (depending on the site requirements) to enable activities to be undertaken in a manner which has minimal impact on the surrounding environment. Rehabilitation plans are prepared for each of the sites, detailing activities to be undertaken throughout the life of the extraction activities. This may include information relating to topsoil management (for later use in rehabilitation), deep ripping, native vegetation planting rates and pasture establishment rates. Supplementary plans, such as water management plans are also developed to manage stormwater flows to minimise the impacts of erosion on the newly rehabilitated lands and their surrounds, and to prevent impacts to groundwater.

No past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources have been taken against B&J Catalano.

1.3 Identity - Proposed designated proponent

Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN	008961975
Organisation name	B&J Catalano Pty Ltd
Organisation address	South Western Highway, Brunswick Junction W.A. 6224

Proposed designated proponent details

Name	Peter Bennett
Job title	Compliance Manager
Phone	0407 857 026
Email	peterbennett@catalano.com.au
	South Western Highway, Brunswick Junction W.A. 6224

Address

1.3 Identity - Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN	87600398945
Organisation name	Lundstrom Environmental Consultants Pty Ltd
Organisation address	21 Sellen Court, LEEMING W.A. 6149
Representative's name	Mike Lundstrom
Representative's job title	Director
Phone	0417934863
Email	admin@lundstrom-environmental.com.au
Address	21 Sellen Court Leeming, WA 6149

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN	008961975
Organisation name	B&J Catalano Pty Ltd
Organisation address	South Western Highway, Brunswick Junction W.A. 6224
Representative's name	Peter Bennett
Representative's job title	Compliance Manager
Phone	0407 857 026
Email	peterbennett@catalano.com.au
Address	South Western Highway, Brunswick Junction W.A. 6224

Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details - Payment exemption and fee waiver

Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

Has the department issued you with a credit note? *

No

Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A? *

No

Would you like to add a purchase order number to your invoice? *

No

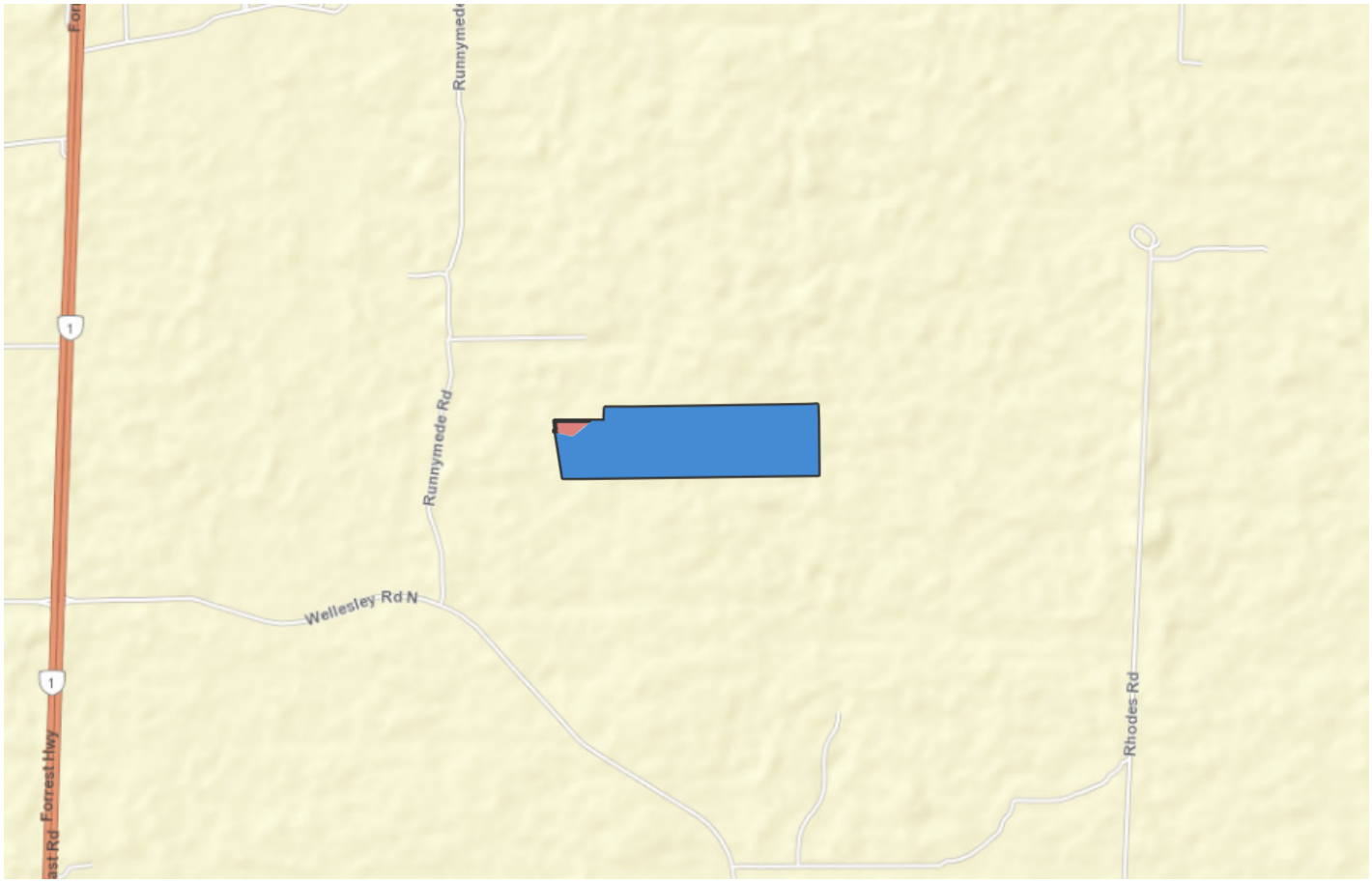
1.4 Payment details - Payment allocation

Who would you like to allocate as the entity responsible for payment? *

Person proposing to take the action

2. Location

2.1 Project footprint



2.2 Footprint details

What is the address of the proposed action? *

Lot 7 on Diagram 40591, Runnymede Road, Wellesley, W.A. This property has no street address information available on th

Where is the primary jurisdiction of the proposed action? *

Western Australia

Is there a secondary jurisdiction for this proposed action? *

No

What is the tenure of the action area relevant to the project area? *

The project area is entirely within Lot 7 Runnymede Rd, which is privately owned freehold land, owned by the proponent.

3. Existing environment

3.1 Physical description

Describe the current condition of the project area's environment.

The project is situated approximately 150 km south of Perth and 23km north of Bunbury, 2km to the east of Forrest Hwy, in South-West WA.

The area is zoned as "General Farming" in terms of the Shire of Harvey Town Planning Scheme No. 1 and "Rural" in terms of the Greater Bunbury Region Scheme (GBRS). The area also falls within the Kemerton Industrial Zone Buffer Area, which is included in the GBRS as a 'Rural' zone with a 'Special Control Area (SCA) No. 2' designation. SCA No. 2 may be subject to significant levels of noise, odour, dust, or any other off-site impacts from the Kemerton Industrial Zone.

Access to the site will be obtained via Runnymede Road, with the use of a shared access drive along the northern boundary of Lot 4. Runnymede Road has been sealed and is maintained by B&J Catalano for this purpose.

The property (Lot 7) is 80.19ha and the majority of the property comprises bushland, with clearing of large sections of bushland occurring pre-mining for agricultural purposes (pastures) and along the eastern boundary for a power line easement. Approval for sand quarrying (extractive industries licence) on Lot 7 was first obtained in 2013.

Areas of different land use within the property are listed below:

Bushland: 46.8ha

Historically Cleared Bushland: 15.7ha

Sand Quarry: 17.6ha

The nearest residences are rural; 620m north-east and 920m north and north-west of the proposed disturbance area.

Myalup Swamp, a Multiple Use Wetland (Dampland, ID 13,249), is approximately 715m west of the project area. To the east of the property there is Reserve land.

Describe any existing or proposed uses for the project area.

The project area is proposed for sand quarrying.

At present the project area is mainly bushland and it is not utilised.

Currently Lot 7 is only utilised for sand quarrying. Surrounding Lots 4, 5 and 21 Runnymede Rd are also utilised for sand quarrying.

Surrounding land uses include extractive industry, agricultural use (grazing) and bushland, as well as a power transfer station.

Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

The disturbance footprint is part of a network of fairly contiguous remnant vegetation. There is a South West Regional Ecological Linkages Axis Line running north to south through the project area, approximately 290m east of the disturbance footprint. The patch has been identified as contributing to landscape connectivity (Connectivity Reach), has connection within the network (Regional connectivity) and the quality of the connected network immediately surrounding the patch has low fragmentation (Fragmentation) (WALGA 2020).

There is a dampland Conservation wetland adjacent to the property's eastern boundary (approximately 1.2km to the east of the disturbance footprint) and there is an Environmentally Sensitive Area (ESA) associated with this wetland.

Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

Lot 7 is situated on a sand hill which ranges in elevation from 12m to 52m AHD. Elevation of the disturbance footprint ranges from 25 to 33m AHD west to east.

The sand resource from the disturbance footprint is estimated at 70,000m3 based on a depth of sand ranging from 16 to 32m AHD. The entire area will serve as a batter to the Main Roads pit on Lot 21 Runnymede Rd (adjacent to, and north of, Lot 7) as will Stage 4 adjacent and north of the proposed disturbance footprint.

3.2 Flora and fauna

Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

The project lies within the Drummond Botanical Sub-district of the Darling Botanical District, which falls within the Southwest Botanical Province (Beard 1980) and is recognised as having a very high degree of species diversity.

The Drummond Botanical Sub-district is characterised by Banksia woodland on leached sands with Melaleuca swamps; woodlands of tuart (*Eucalyptus gomphocephala*), jarrah (*Eucalyptus marginata*) and marri (*Corymbia calophylla*) (Beard,1990). Dominant plant families of the Drummond Botanical Sub-district include Proteaceae, Myrtaceae and Fabaceae.

Lundstrom Environmental Consultants (LEC) was commissioned by B&J Catalano to undertake a detailed flora and vegetation assessment over 16ha of native vegetation on Lot 7 Runnymede Rd (the vegetation survey area) within which most of the disturbance footprint is situated (Attachment 3). The survey was undertaken in accordance with the guidance document *Technical Guidance - Flora and Vegetation surveys for Environmental Impact Assessment* (EPA 2016). The single-phase detailed (formally level 2) flora and vegetation assessment was carried out between the 18th and 20th of September 2018.

One vegetation type was described for the Vegetation Survey Area following the 2018 Spring Flora and Vegetation Survey: *Banksia attenuata - Eucalyptus marginata* open woodland over a *Hibbertia hypericoides – Melaleuca thymoides* low open shrubland over a herbland of *Dasypogon bromeliifolius.* The vegetation described was found to be most similar to Floristic Community Type (FCT) 21a through dendrogram outputs from FCT analysis, which is part of the EPBC Act Banksia Woodlands of the Swan Coastal Plain Threatened Ecological Community (TEC). However, it is not listed as a threatened or priority ecological community by the Western Australian Government and is not protected under the *Biodiversity Conservation Act 2016* (BC Act) (DBCA 2019).

The vegetation of the Survey Area ranged from 'Excellent' to 'Degraded', with the majority of the site in an 'Excellent' condition. However, the area of the disturbance footprint was predominantly 'Degraded' to 'Good' due to edge effects, grazing, and the presence of weeds. The clearing footprint is an area of <1ha.

No Threatened flora under the *Biodiversity Conservation Act 2016* (BC Act) or under the EPBC Act were recorded.

Ecoedge Environmental Services was commissioned by B&J Catalano to undertake a fauna assessment over 9.9ha of native vegetation on Lot 7 Runnymede Rd (the fauna survey area) (Attachment 4). Two areas in proximity were surveyed, with the disturbance footprint situated within the larger survey area of 7.9ha. The fauna survey included a targeted survey for black cockatoo habitat and was undertaken by zoologist Greg Harewood between the 6 and 7 of October 2021.

The disturbance footprint is described as open woodland of marri and jarrah over a low open woodland. The area has been subject to historical logging with many of the trees being relatively young in age. The disturbance footprint is characterised by an absence of a shrub layer.

Evidence of two vertebrate fauna species of conservation significance was detected within the survey area:

Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*) - Vulnerable (WA/Federal);

Carnaby's Black Cockatoo (*Zanda latirostris*) - Endangered (WA/Federal);

No evidence of any other fauna species of conservation significance was observed, however Baudin's Black cockatoo (*Zanda baudinii*) - Endangered (WA/Federal) may also utilise the area.

The disturbance footprint was found to contain 13 potential "black cockatoo breeding habitat trees" (DBH >50cm), with 10 of these containing no hollows, and two containing hollows unsuitable for black cockatoos. One tree appear to contain at least one hollow considered potentially suitable for black cockatoos to use for nesting purposes. This tree also had chew marks that have been attributed to black cockatoo activity, however it is not a confirmed breeding tree or known nesting tree.

No existing roosting trees (trees used at night by black cockatoos to rest) were positively identified during the survey.

Quality black cockatoo foraging habitat was identified within the survey area including the disturbance footprint.

No evidence of Western Ringtail Possum (*Pseudocheirus occidentalis,* Critically Endangered - WA/Federal) was recorded during the survey, with this species more commonly encountered west of Forrest Highway. There is no peppermint tree habitat within the 7.9ha survey area where the disturbance footprint is located. A recent (Sept-Dec 2019) fauna survey of 19ha on Lot 4 Runnymede (south of and adjacent to the Lot 7 fauna survey) also found no evidence of this species.

Describe the vegetation (including the status of native vegetation and soil) within the project area.

The project area is located within the Swan Coastal Plain (SCP). The SCP represents the Quaternary surface of the Perth Basin and lies in a 30 km wide band between the coast and the Darling Scarp, extending approximately 600 km from Geraldton to Dunsborough (Playford et al. 1976).

The project area lies within the Spearwood dune geomorphic unit of the SCP. The Spearwood system is described as dune ridges with deep siliceous yellow brown sands or pale sands with yellow brown subsoil. The sand reaches a maximum thickness of 20 metres and is underlain by sandy clays of the Guildford Formation and limestone of the Tamala Formation.

The project area is situated in the Interim Biogeographic Regionalisation of Australia (IBRA) Perth subregion (SWA02) of the Swan Coastal Plain IBRA bioregion (DEE 2018; Thackway and Cresswell 1995). The Perth subregion (SWA02) is composed of colluvial and aeolian sands, alluvial river flats, coastal limestone. It comprises of Heath and/or Tuart woodlands on limestone, Banksia and Jarrah-Banksia woodlands on Quaternary marine dunes of various ages, and Marri on colluvial and alluvials and also includes a complex series of seasonal wetlands (Mitchell et al. 2002).

The project area is characteristic of the Spearwood_6 vegetation association, which is broadly described as a medium woodland; tuart and jarrah (Beard et al. 2005; Government of Western Australia 2018b). The remaining extent of the vegetation association (Spearwood_6 of the Swan Coastal Plain) is 14,579ha or 25.8% of its Pre-Eropean extent. The percentage of the remaining vegetation association that is protected (IUCN I-IV) is12.9%. Loss of 0.84ha due to the proposed clearing represents less than 0.006% of the current Spearwood_6 vegetation association extent.

A search of the Acid Sulphate Soil (ASS) risk map for the Swan Coastal Plain identified the area to be outside any mapped risk areas.

One vegetation type was described for the Vegetation Survey Area following the 2018 Spring Flora and Vegetation Survey (Attachment 3): *Banksia attenuata - Eucalyptus marginata* open woodland over a *Hibbertia hypericoides – Melaleuca thymoides* low open shrubland over a herbland of *Dasypogon bromeliifolius.* The vegetation described was found to be most similar to Floristic Community Type (FCT) 21a

through dendrogram outputs from FCT analysis, which is part of the EPBC Act Banksia Woodlands of the Swan Coastal Plain Threatened Ecological Community (TEC). However, it is not listed as a threatened or priority ecological community by the Western Australian Government and is not protected under the *Biodiversity Conservation Act 2016* (BC Act) (DBCA 2019).

The disturbance footprint was assessed as predominantly 'Degraded' to 'Good' due to edge effects, historical clearing, grazing and the presence of weeds, and the clearing footprint is an area of <1ha.

The disturbance footprint is described as open woodland of marri and jarrah over a low open woodland. The area has been subject to historical logging with many of the trees being relatively young in age. The disturbance footprint is characterised by an absence of a shrub layer.

3.3 Heritage

Describe any Commonwealth heritage places overseas or other places recognised as having heritage values that apply to the project area.

The nearest place listed on the register of the National Estate is Springhill Homestead, Springhill Road, Binningup, WA, more than 3 km to the south west of the project area.

Describe any Indigenous heritage values that apply to the project area.

A search of the Department of Planning, Lands and Heritage (DPLH) Aboriginal Heritage Inquiry System (AHIS) shows no registered sites or other heritage places within Lot 7 Runnymede Rd. The closest site of significance is Site No. 5806, and is located to the west of the south-western corner of Lot 4 Runnymede Rd. Site No 5805, located in the same area, is classified as "stored data/not a site".

Several archaeological surveys have taken place in relation to the Runnymede Rd sand quarries, the most recent in July 2021. The latest Aboriginal heritage survey was carried out by anthropologist Brad Goode and covered all the remnant native vegetation of both Lots 7 and 4 Runnymede Rd properties, including the full extent of the project area (Attachment 5). The heritage survey included both an ethnographic and archaeological review and consultation with the Gnaala Karla Booja (GKB) people and considered matters pertaining to the Western Australian *Aboriginal Heritage Act 1972 (*AHA) and the EPBC Act.

No Aboriginal heritage sites of significance, as defined by section 5 of the AHA, were identified during the survey. The survey also concluded that there was little potential for heritage materials being found either on the surface or in the ground within the survey area.

A previous survey on the western section of Lot 4 located two isolated quartz artefacts within the survey area, however due to the lack of other artefacts or cultural material within close proximity to the location of the two recorded artefacts, it was concluded that they are isolated artefacts and not part of an archaeological site as defined by Section 5 of the AHA, and they are not part of the listed sites DIA Site ID's 5805 and 5806 (Coldrick.B 2008).

In regard to native title, the Aboriginal heritage survey noted that the GKB have surrendered their native title under the Noongar native title settlement made with the WA Government. Additionally, Lot 7 is within freehold land owned by the Proponent and freehold land has extinguished any remnant native title at the time of its grant.

3.4 Hydrology

Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

Hydrology
The west part of the project area, including the disturbance footprint, lies in the Harvey Diversion-Harvey River Catchment within the Harvey River Basin, with the eastern part of the project area in the Leschenault Estuary-Lower Collie Catchment within the Collie River Basin.

The project area is not within a *Rights in Water and Irrigation Act 1914* (RIWI Act) Surface Water Proclamation Area and does not fall within a Public Drinking Water Source Area. The proposed action is not located near any sensitive water resources.

Locally, there are no defined drainage lines within the project area as drainage occurs by infiltration. There is no expression of surface water within the project area.

The disturbance footprint slopes gently from 35 m AHD in the east to 26 m AHD in the west, with runoff unlikely to be generated by heavy winter rainfalls due to the porous nature of the surface and low slopes. If any runoff were generated, it would flow westward into the existing sand pit and be contained there.

Hydrogeology
The project area is within a RIWI Act Groundwater Proclamation Area (South West Coastal Groundwater Area).

The project area is located in the Myalup groundwater flow system, in the central part of the coastal plain. The Myalup flow system connects to the Waroona flow system along its eastern boundary, and together with the Serpentine flow system (not connected to the Myalup flow system) they form the three regional flow systems of the superficial unconfined aquifer of the coastal plain between Pinjarra and Bunbury (Deeny 1989).

The Myalup flow system is approximately 510km2 and is bounded in the west by the coastal lakes and Leschenault Inlet, in the south by the Collie River, in the north by the flow system between Lake Clifton and Harvey Estuary, and in the east by the Peel Inlet, Harvey Estuary, Harvey River and Main Drain, Mangosteen Drain and the Wellesley River (Deeny 1989). The saturated thickness of the aquifer decreases from 30m in the east to 20m in the west.

The aquifer transmissivity is generally higher in the Myalup flow system because the superficial formations consist predominantly of sand and limestone. The transmissivity of the superficial aquifer at the project area has been calculated from an estimated transmissivity map as 500m2 /day (Deeny 1989, Figure 8). At the project area (in the central part of the coastal plain) the hydraulic gradient is low (Deeny 1989). The hydraulic conductivity has been calculated as 10m/day from the lithology at the project area (fine to medium sand) (Deeny 1989, Table 3). The groundwater salinity at the project area has been estimated as 500 – 1000 mg/L TDS from Department of Water and Environmental Regulation (DWER) Groundwater Salinity Statewide maps.

Within the project area groundwater flow is towards the Mialla Swamp to the west. In the Myalup flow system groundwater flows from the Yanget and Mialla mounds to discharge into the coastal lakes in the west, and into the rivers and drains in the east (Deeny 1989). A significant quantity of groundwater is removed by evapotranspiration from areas where the water table is at shallow depth such as swamps. Recharge to the superficial aquifer is directly by rainfall, and irrigation leakage. Recharge rates are generally higher in the central part of the coastal plain because of the low clay content, shallow water table and low topographic gradient.

Based on an evaluation of information provided by the DWER, together with data on static water elevation obtained from nearby private bores, the historical maximum groundwater level at the disturbance footprint is estimated to be approximately 9.1 m AHD at the western boundary and approximately 10.1 m AHD at the eastern boundary. Details of the historical maximum groundwater level calculations are included in the Water Management Plan, which is included as Appendix 4 of the Extractive Industry Licence Application & Environmental Management Plan (EMP) report (Attachment 1).

The project area has a seasonal groundwater level variation of approximately 1 meter.

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes

EPBC Act section	Controlling provision	Impacted	Reviewed
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	No	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	No	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	No	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes
S26	Commonwealth Land	No	Yes
S27B	Commonwealth heritage places overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no records of World Heritage sites relevant to the project area.

National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no records of National Heritage sites relevant to the project area.

Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Ramsar wetland
Yes		Peel-Yalgorup System
Yes		Peel-Yalgorup System
Yes		Peel-Yalgorup System
Yes		Peel-Yalgorup System
Yes		Peel-Yalgorup System

Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

Due to the small scale and low impact nature of the proposal, combined with the large distance of over 5km to the Yalgorup Lakes System Ramsar Wetland, there will be no direct and/or indirect impacts to the Ramsar Wetland.

Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species
No	No	Andersonia gracilis
Yes		Andersonia gracilis
Yes		Andersonia gracilis
Yes		Andersonia gracilis
Yes		Andersonia gracilis
No	No	Austrostipa bronwenae
Yes		Austrostipa bronwenae
Yes		Austrostipa bronwenae
Yes		Austrostipa bronwenae
Yes		Austrostipa bronwenae
No	No	Botaurus poiciloptilus
Yes		Botaurus poiciloptilus
Yes		Botaurus poiciloptilus
Yes		Botaurus poiciloptilus
Yes		Botaurus poiciloptilus
No	No	Caladenia huegelii
Yes		Caladenia huegelii
Yes		Caladenia huegelii
Yes		Caladenia huegelii
Yes		Caladenia huegelii
No	No	Caladenia procera
Yes		Caladenia procera
Yes		Caladenia procera
Yes		Caladenia procera
Yes		Caladenia procera
No	No	Calidris canutus
Yes		Calidris canutus
Yes		Calidris canutus
Yes		Calidris canutus
Yes		Calidris canutus
No	No	Calidris ferruginea
Yes		Calidris ferruginea
Yes		Calidris ferruginea

Direct impact	Indirect impact	Species
Yes		Calidris ferruginea
Yes		Calidris ferruginea
Yes		Calyptorhynchus banksii naso
Yes		Calyptorhynchus banksii naso
Yes		Calyptorhynchus banksii naso
Yes		Calyptorhynchus banksii naso
Yes		Calyptorhynchus banksii naso
No	No	Charadrius leschenaultii
Yes		Charadrius leschenaultii
Yes		Charadrius leschenaultii
Yes		Charadrius leschenaultii
Yes		Charadrius leschenaultii
No	No	Dasyurus geoffroii
Yes		Dasyurus geoffroii
Yes		Dasyurus geoffroii
Yes		Dasyurus geoffroii
Yes		Dasyurus geoffroii
No	No	Diuris drummondii
Yes		Diuris drummondii
Yes		Diuris drummondii
Yes		Diuris drummondii
Yes		Diuris drummondii
No	No	Diuris micrantha
Yes		Diuris micrantha
Yes		Diuris micrantha
Yes		Diuris micrantha
Yes		Diuris micrantha
No	No	Diuris purdiei
Yes		Diuris purdiei
Yes		Diuris purdiei
Yes		Diuris purdiei
Yes		Diuris purdiei
No	No	Drakaea elastica
Yes		Drakaea elastica
Yes		Drakaea elastica

Direct impact	Indirect impact	Species
Yes		Drakaea elastica
Yes		Drakaea elastica
No	No	Drakaea micrantha
Yes		Drakaea micrantha
Yes		Drakaea micrantha
Yes		Drakaea micrantha
Yes		Drakaea micrantha
No	No	Falco hypoleucos
Yes		Falco hypoleucos
Yes		Falco hypoleucos
Yes		Falco hypoleucos
Yes		Falco hypoleucos
No	No	Galaxiella nigrostriata
Yes		Galaxiella nigrostriata
Yes		Galaxiella nigrostriata
Yes		Galaxiella nigrostriata
Yes		Galaxiella nigrostriata
No	No	Leipoa ocellata
Yes		Leipoa ocellata
Yes		Leipoa ocellata
Yes		Leipoa ocellata
Yes		Leipoa ocellata
No	No	Numenius madagascariensis
Yes		Numenius madagascariensis
Yes		Numenius madagascariensis
Yes		Numenius madagascariensis
Yes		Numenius madagascariensis
No	No	Pristis pristis
Yes		Pristis pristis
Yes		Pristis pristis
Yes		Pristis pristis
Yes		Pristis pristis
No	No	Pseudocheirus occidentalis
Yes		Pseudocheirus occidentalis
Yes		Pseudocheirus occidentalis

Direct impact	Indirect impact	Species
Yes		Pseudocheirus occidentalis
Yes		Pseudocheirus occidentalis
No	No	Rostratula australis
Yes		Rostratula australis
Yes		Rostratula australis
Yes		Rostratula australis
Yes		Rostratula australis
No	No	Sternula nereis nereis
Yes		Sternula nereis nereis
Yes		Sternula nereis nereis
Yes		Sternula nereis nereis
Yes		Sternula nereis nereis
No	No	Synaphea sp. Fairbridge Farm (D. Papenfus 696)
Yes		Synaphea sp. Fairbridge Farm (D. Papenfus 696)
Yes		Synaphea sp. Fairbridge Farm (D. Papenfus 696)
Yes		Synaphea sp. Fairbridge Farm (D. Papenfus 696)
Yes		Synaphea sp. Fairbridge Farm (D. Papenfus 696)
No	No	Synaphea sp. Serpentine (G.R. Brand 103)
Yes		Synaphea sp. Serpentine (G.R. Brand 103)
Yes		Synaphea sp. Serpentine (G.R. Brand 103)
Yes		Synaphea sp. Serpentine (G.R. Brand 103)
Yes		Synaphea sp. Serpentine (G.R. Brand 103)
Yes		Zanda baudinii
Yes		Zanda baudinii
Yes		Zanda baudinii
Yes		Zanda baudinii
Yes		Zanda baudinii
Yes		Zanda latirostris
Yes		Zanda latirostris
Yes		Zanda latirostris
Yes		Zanda latirostris
Yes		Zanda latirostris

Ecological communities

Direct impact	Indirect impact	Ecological community

Direct impact	Indirect impact	Ecological community
Yes		Banksia Woodlands of the Swan Coastal Plain ecological community

Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

Banksia Woodlands of the Swan Coastal Plain ecological community (listed as Endangered under the EPBC Act)

The clearing footprint vegetation (0.84ha; Good to Degraded condition) would not qualify as part of the Banksia Woodlands of the Swan Coastal Plain TEC if it was considered as a patch, given a patch should meet at least the Good condition category, and Banksia woodland in Good condition requires a minimum patch size of 2ha as per Section 2.2.3 of the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) (s 266B) Approved Conservation Advice (incorporating listing advice) for the Banksia Woodlands of the Swan Coastal Plain ecological community* (2016). While the disturbance footprint does not meet the definition of a 'patch', it's location within the adjacent larger area of vegetation (the northwest most corner and mainly the edge vegetation) lends itself to some similarities to a small patch.

However, the vegetation within the disturbance footprint does connect to a greater area of native vegetation, which has been assessed as the Banksia Woodlands of the Swan Coastal Plain TEC by a 2018 Spring Flora and Vegetation Survey. The proposed clearing of 0.84ha does therefore have a likely direct impact on the Banksia Woodlands of the Swan Coastal Plain TEC. Indirect impacts are also likely, as edge effects and increased weeds are also potential impacts of clearing. The vegetation within the disturbance footprint could also be considered as a buffer for the better condition (Very Good and Excellent) Banksia Woodlands TEC adjacent and to the southeast of the disturbance footprint.

Hydrological and water quality impacts are not anticipated from the proposed action, due to the small scale and low impact nature of the proposal. The proposed action is not located near any sensitive water resources.

Three threatened Black cockatoo species: Carnaby's cockatoo (endangered) *Zanda latirostris*, Baudin's cockatoo (endangered) *Zanda baudinii*, Forest red-tailed black cockatoo (vulnerable) *Calyptorhynchus banksii naso*

The property is mapped as Baudin's Black Cockatoo "breeding likely to occur within area", with this species listed as Endangered under the EPBC Act. The disturbance footprint has been surveyed and 13 habitat trees have been identified within the clearing footprint, with most having no hollows, however two contained hollows found unsuitable for black cockatoos, and one tree had a large hollow suitable for black cockatoos. The tree with the suitable hollow also had black cockatoo chew marks, however it is not a confirmed breeding tree or known nesting tree.

Forest Red-tailed Black Cockatoo and Carnaby's Black Cockatoo have been mapped as "species or species habitat likely to occur within area" within a 5km buffer. The fauna survey area where the disturbance footprint is located was identified as black cockatoo foraging habitat.

The fauna survey positively identified Forest Red tailed Black Cockatoo and Carnaby's Black Cockatoo as utilising the area, however Baudin's Black Cockatoo, even though no evidence of this species was found during the survey, may possibly occur in the area.

No existing roosting trees (trees used at night by black cockatoos to rest) were positively identified during the survey.

The proposed action involves the clearing of 0.84ha of potential breeding habitat and foraging habitat and does therefore have a likely direct impact on black cockatoos.

Other Listed Threatened Species and Ecological Communities

The Western Ringtail Possum (*Pseudocheirus occidentalis,* Critically Endangered - WA/Federal) was listed in the fauna survey as a potential species based on available information. However, no evidence of the Western Ringtail Possum was recorded during the survey, with this species more commonly encountered west of Forrest Highway. There is no peppermint tree habitat within the 7.9ha survey area where the disturbance footprint is located. A recent (Sept-Dec 2019) fauna survey of 19ha on Lot 4 Runnymede (south of and adjacent to the Lot 7 fauna survey) also found no evidence of this species. Hence no direct or indirect impacts to this species are anticipated.

All other threatened species listed have been identified as unlikely to occur within the impact area by the detailed flora and vegetation and the fauna surveys (Attachments 3 and 4). Hence no direct or indirect impacts to these species are anticipated.

Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

Describe why you do not consider this to be a Significant Impact. *

• Although the proposed action is likely to have direct and potential indirect impacts on the Banksia Woodlands TEC, the small scale, low risk nature of the proposal means it is unlikely to be a significant impact. The proposed clearing is for only 0.84ha of Good to Degraded condition native vegetation that is mainly edge vegetation. The vegetation has been impacted by historical logging, grazing, weeds and is characterised by an absence of a shrub layer.

The remaining extent of the vegetation association of the proposed clearing (Spearwood_6 of the Swan Coastal Plain) is 14,579ha or 25.8% of its Pre-European extent. Loss of 0.84ha due to the proposed clearing represents less than 0.006% of the current Spearwood_6 vegetation association extent.

The 0.84ha proposed clearing will not fragment the TEC nor does not it serve as a linkage/corridor, nor is located at the edge of the range of the TEC. There are large extents of native vegetation to the west, south and north. Vegetation surveys on Lots 4 and 7 have identified nearly 40ha of Banksia Woodlands TEC within the properties adjacent to the extraction areas, and the native vegetation to the east of the surveys is similar vegetation and therefore potentially also TEC.

Furthermore, the 2018 Flora and Vegetation Survey identified the vegetation as FCT 21a, which is not recognised as a threatened or priority ecological community by the WA Government and is not protected under the *Biodiversity Conservation Act 2016* (DBCA 2019), therefore the TEC is a sub-community known to be more common and not as highly restricted or significance.

Potential indirect impacts such as edge effects/loss of buffer and potential increase in weeds will also be small due to the small area. The vegetation potentially affected by edge effect will be along a length of approximately 115m once clearing has been undertaken.

Hydrological and water quality impacts are not anticipated, again due to the small scale, low risk nature of the proposed action.

The proposed action is unlikely to meet the significant impact criteria for endangered species set out in the *Matters of National Environmental Significance Significant Impact Guidelines* (DEWHA 2013). While some habitat considered critical to the survival of the TEC will be adversely affected (Approved Conservation Advice 2016), when this is considered in the context of the small scale, low impact nature of the proposal (clearing 0.84ha of Good to Degraded condition that is mainly edge vegetation) and the surrounding environment and landscape context as described above, significant impacts to this TEC are not expected.

• Although the proposed action is likely to have direct impacts on black cockatoos, the small scale, low risk nature of the proposed action means it is unlikely to be a significant impact. The proposed clearing is for only 0.84ha of Good to Degraded condition native vegetation that is mainly edge vegetation. The vegetation has been impacted by historical logging, grazing, weeds and is characterised by an absence of a shrub layer.

There is about 12,000ha of remnant vegetation (based on available mapping) within 12km of the Project area, much of this is likely to represent black cockatoo foraging habitat of some kind and potential breeding habitat.

The proposed action does not involve clearing of more than 1ha of quality foraging habitat, any impacts to night roosting sites, the clearing of any known nesting tree, and does not fragmentise black cockatoo habitat.

According to the *EPBC Act referral guidelines for three threatened Black cockatoo species* (DSEWPaC 2012) significant impacts to these species includes clearing or degradation of any part of a vegetation community known to contain breeding habitat. However the proposed action is not considered a significant impact due to the small area of clearing; only one tree with a suitable hollow proposed for clearing, for which several nesting boxes within adjacent vegetation will be installed as offset; and the large extent of remnant vegetation with likely potential breeding habitat in the vicinity of the proposed action.

The 2021 fauna survey identified potential breeding habitat and foraging habitat, but concluded “No significant impact on this species anticipated given small area involved” for all 3 species of black cockatoos. Likely impacts are anticipated to be low primarily due to likely low population densities and the relatively small area of habitat present i.e. only a small number of individuals, if any will be affected.

The fauna survey further concludes that no overall change in the conservation status of these species currently utilising the survey area is anticipated. While some small, localised residual loss of habitat may occur for these species, regional impacts on the status of these species are anticipated to be non-existent.

Do you think your proposed action is a controlled action? *

No

Please elaborate why you do not think your proposed action is a controlled action. *

The proposed action is not considered a controlled action. As per the sections above, while impacts on the Banksia Woodlands of the Swan Coastal Plain TEC and three threatened black cockatoo species are likely, the impacts are not considered significant impacts due to the small scale, low risk nature of the proposal. The proposed clearing is for only 0.84ha of Good to Degraded condition native vegetation that is mainly edge vegetation. The vegetation has been impacted by historical logging, grazing, weeds and is characterised by an absence of a shrub layer.

The Banksia Woodlands TEC sub-community identified in the survey area is known to have a wider distribution area therefore is not as highly restricted or significance as other Banksia Woodlands TEC sub-communities. The 0.84ha proposed for clearing will not fragment the TEC nor does not it serve as a linkage or corridor, nor is located at the edge of the range of the TEC.

For the three threatened black cockatoo species, the proposed action does not involve clearing of more than 1ha of quality foraging habitat, any impacts to night roosting sites, the clearing of any known nesting tree, and does not fragmentise black cockatoo habitat.

There are large extents of native vegetation to the west, south and north, with approximately 12,000ha of remnant vegetation (based on available mapping) within 12km of the Project area. Vegetation and fauna surveys on Lots 4 and 7 have identified nearly 40ha of Banksia Woodlands TEC and 30ha of foraging and breeding habitat within the properties adjacent to the extraction areas, and the native vegetation immediately to the east of the surveys is similar vegetation and therefore potentially also Banksia Woodlands TEC and likely black cockatoo foraging and breeding habitat. Much of the remnant vegetation extent is likely to represent black cockatoo foraging habitat of some kind and potential breeding habitat.

Potential indirect impacts such as edge effects/loss of buffer and potential increase in weeds will also be small due to the small area. Furthermore, the proponent implements weed management at this site, with a weed management plan approved by the Shire of Harvey already in place for the operations. Other approved management plans addressing all potential impacts, such as water management, are also implemented as part of all operations at Lot 7.

Furthermore, the proposed action is short term, as extraction within the area is expected to be finalised within 5 years. Once extraction is finalised, the area will be rehabilitated as per the Shire approved Rehabilitation Management Plan (included as Appendix 2 of the Extractive Industry Licence Application & Environmental Management Plan (EMP) report in Attachment 1), which includes topsoil management (for later use in rehabilitation), deep ripping, use of windrowed cleared vegetation, native vegetation planting rates and pasture establishment rates, as well as monitoring and maintenance measures.

Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Avoidance measures are not possible for this proposal as the area has been specifically requested by Main Roads WA for the extension of their Lot 21 Runnymede Rd sand quarry into Catalano's Lot 7 sand quarry and this area will be part of a greater area within Lot 7 that will be providing sand to Main Roads WA for the Bunbury Outer Ring Road (BORR), and it is considered crucial for this important WA Government project.

The proponent implements weed, water, noise, dust, dieback and hydrocarbon management as part of their operations, to ensure the management of any potential impacts, and these are included as appendices to the Lot 7 Extractive Industry Licence Application & Environmental Management Plan (EMP) included as Attachment 1. Management plans have been approved by the Shire of Harvey for both Lot 7 and Lot 4 operations. Furthermore, noise, dust, water and hydrocarbon management plans have been approved by DWER as part of licensing of the operations.

All clearing will be carried out as per Catalano procedures for pegging/delineation of the approved clearing footprint to ensure no over clearing occurs. A fauna relocation program will be implemented prior to and during clearing works to ensure direct impacts on fauna are avoided. Proper hygiene management as per weed and dieback management plans will also be implemented during clearing, as well as in the ongoing operations.

Furthermore, the proposed action is short term, as extraction within the area is expected to be finalised within 5 years. Once extraction is finalised, the area will be rehabilitated as per the Shire approved Rehabilitation Management Plan, which includes topsoil management (for later use in rehabilitation), deep ripping, use of windrowed cleared vegetation, native vegetation planting rates and pasture establishment rates, as well as monitoring and maintenance measures. Rehabilitation will result in a stable landform with the disturbance footprint rehabilitated to pastures and a 2.61ha area within the existing pit to be planted with endemic native species as part of current approvals.

Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

Banksia Woodlands of the Swan Coastal Plain ecological community (listed as Endangered under the EPBC Act)

No offsets are proposed as the action is not considered a control action.

Three threatened Black cockatoo species: Carnaby's cockatoo (endangered) *Zanda latirostris*, Baudin's cockatoo (endangered) *Zanda baudinii*, Forest red-tailed black cockatoo (vulnerable) *Calyptorhynchus banksii naso*

It is proposed to install and maintain four nesting boxes within adjacent native vegetation to offset the loss of one habitat tree with suitable hollow for black cockatoos.

Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species
Yes		Actitis hypoleucos
Yes		Apus pacificus
Yes		Calidris acuminata
Yes		Calidris canutus
Yes		Calidris ferruginea
Yes		Calidris melanotos
Yes		Charadrius leschenaultii
Yes		Motacilla cinerea
Yes		Numenius madagascariensis
Yes		Pristis pristis
Yes		Tringa nebularia

Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The likelihood of occurrence of these Migratory Species has been considered in the 2021 fauna assessment (Attachment 4).

For all of these Migratory Species, the project area does not provide suitable habitat and no impact on this range of species will occur.

The *Apus pacificus* may occur very occasionally for brief periods, however it is entirely aerial, hence no impact on this species will occur.

Nuclear

Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The proposal does not involve any nuclear action.

Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no records of Commonwealth Marine Areas relevant to the project area.

Great Barrier Reef

Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The project area is located in WA and not near the Great Barrier Reef.

Water resource in relation to large coal mining development or coal seam gas

Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The project does not involve water resource in relation to large coal mining development or coal seam gas.

Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no records of Commonwealth Land relevant to the project area.

Commonwealth heritage places overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no records of Commonwealth heritage places overseas relevant to the project area.

Commonwealth or Commonwealth Agency

Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

None

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Threatened Species and Ecological Communities (S18)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth heritage places overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

Describe why alternatives for your proposed action was not possible. *

Avoidance measures are not possible for this proposal as the area has been specifically requested by Main Roads WA for the extension of their Lot 21 Runnymede Rd sand quarry into Catalano's Lot 7 sand quarry, and this area will be part of a greater area within Lot 7 that will be providing sand to Main Roads WA for the Bunbury Outer Ring Road (BORR), and it is considered crucial for this important WA Government project.

5. Lodgement

5.1 Attachments

1.2 Overview of the proposed action

#1.	Att 1. Extractive Industry Licence Application & Environmental Management Plan (EMP)	Document	Full details of the proposed mining operations and figures are included in this document.

1.2 Public consultation regarding the project area

#1.	Att 5. Aboriginal heritage survey 2021	Document	Aboriginal heritage survey covering all remnant native vegetation of both Lots 7 and 4 Runnymede Rd, July 2021. This document contains the following Warning: This document may contain names, images or material that relates to deceased Aboriginal persons. Permission was sought and granted by the consulted informants to cite this information.

1.3 (Proposer's identity) Proposer's history of responsible environmental management

#1.	Att 2. Company environmental management documents	Document	B&J Catalano's Environmental Policy, and OH&S and Environmental Management Systems Certifications

3.2 Flora and fauna within the affected area

#1.	Att 3. Detailed flora and vegetation assessment 2018	Document	Detailed flora and vegetation assessment over 16ha of native vegetation on Lot 7 Runnymede Rd, Sept 2018
#2.	Att 4. Fauna assessment 2021	Document	Fauna assessment, including targeted survey for black cockatoo habitat, over 9.9ha of native vegetation on Lot 7 Runnymede Rd, Oct 2021

3.3 Indigenous heritage values that apply to the project area

#1.	Att 5. Aboriginal heritage survey 2021	Document	Aboriginal heritage survey covering all remnant native vegetation of both Lots 7 and 4 Runnymede Rd, July 2021. This document contains the following Warning:

This document may contain names, images or material that relates to deceased Aboriginal persons. Permission was sought and granted by the consulted informants to cite this information.

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN	87600398945
Organisation name	Lundstrom Environmental Consultants Pty Ltd
Organisation address	21 Sellen Court, LEEMING W.A. 6149
Representative's name	Mike Lundstrom
Representative's job title	Director
Phone	0417934863
Email	admin@lundstrom-environmental.com.au
Address	21 Sellen Court Leeming, WA 6149

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ By checking this box, I, **Mike Lundstrom of Lundstrom Environmental Consultants Pty Ltd**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN	008961975
Organisation name	B&J Catalano Pty Ltd
Organisation address	South Western Highway, Brunswick Junction W.A. 6224
Representative's name	Peter Bennett
Representative's job title	Compliance Manager
Phone	0407 857 026
Email	peterbennett@catalano.com.au
Address	South Western Highway, Brunswick Junction W.A. 6224

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Peter Bennett of B&J Catalano Pty Ltd**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Peter Bennett of B&J Catalano Pty Ltd**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

LUNDSTROM ENVIRONMENTAL CONSULTANTS Pty Ltd
ACN 600 398 945

21 Sellen Court
Leeming
WA 6149

Mob: 0417 934 863
E-mail: admin@lundstrom-environmental.com.au
www.Lundstrom-Environmental.com.au

The Department of Water and Environmental Regulation
Native Vegetation Conservation Branch
Locked Bag 10
Joondalup DC WA 6027

Application to Clear Native Vegetation – Lot 7 Runnymede Road, Wellesley, Shire of Harvey

Here with please find enclosed an application to clear 0.84ha of native vegetation for the purpose of sand extraction on the above-mentioned property, as shown in the attached map (Figure 1).

Please find the following attached for this clearing permit application:

- Signed application Form NV-F01 (Purpose permit application)
- Letter of authority from land owners
- Certificate of Title for Lot 7on Diagram 40591
- A PDF of a map showing the proposed clearing footprint (Figure 1)
- Clearing footprint in electronic shape file format
- The revised flora and vegetation survey report has been attached, as the IBSA submission has been updated with revised report to incorporate changes in the figures of the previously submitted flora and vegetation survey report.

Yours sincerely

Mike Lundstrom
Principal Consultant
7 July 2022

GOVERNMENT OF WESTERN AUSTRALIA

Department of Water and Environmental Regulation

Department of Mines, Industry Regulation and Safety

Application for new permit or referral to clear native vegetation

This is the form to submit a referral of proposed clearing or apply for a clearing permit under Part V of the *Environmental Protection Act 1986* (EP Act).

Before you submit this form, please check you have completed all the fields for the form type and fully prepared any required supporting documents (including maps etc.). We will return / decline any forms that are not correctly completed.

To find out more about the stages of assessment for clearing permit forms, see the *Procedure: Native vegetation clearing permits*.

Part 1 – Form type

Select your form type. NOTE: Where appropriate in this form, and unless stated otherwise, the terms 'application' and 'applicant' also mean 'referral' and 'referrer' respectively.	☐ Referral of proposed clearing (section 51DA of the EP Act) ☐ Application for an area permit (section 51E of the EP Act) ☒ Application for a purpose permit (section 51E of the EP Act)

Part 2 – Applicant details

2.1 Applicant name

For area permits:

If granted, the name(s) of (all) landowner(s) will be listed as 'permit holders' on the permit.

For purpose permits:

If granted, the name(s) of (all) applicant(s) will go on the permit.

☐ Applying as an individual – complete the following:

Title	☐ Mr ☐ Mrs ☐ Ms ☐ Other:	
Name(s)		

☒ Applying as a body corporate or other entity formed at law – complete the following:

Name	B & J Catalano Pty Ltd
Australian Company Number (ACN)	ACN 008961975

☐ Applying as a government entity (e.g. government department, local government authority, or other statutory body)

Name	

2.2 Applicant contact details

Provide the contact details for the above (primary contact).

Title	☒ Mr ☐ Mrs ☐ Ms ☐ Other:		
First name	Peter		
Last name	Bennett		
Position	Compliance Manager		
Company name	B & J Catalano Pty Ltd		
Contact phone number (1)	08 9726 8100	Phone number (2)	0407857026
Email address	peterbennett@catalano.com.au		

2.2 Applicant contact postal details

Provide the postal address for the above individual, body corporate or local government authority (primary contact).

Address line 1	South West Highway		
Address line 2	Brunswick Junction		
Suburb	Brunswick		
State	WA	Postcode	6224

2.3 Applicant contact – registered business address

If applying as a company, incorporated body, local government authority or public authority, please also supply the registered business office address.

Address line 1	AMD, Level 1,		
Address line 2	53 Victoria Street,		
Suburb	Bunbury		
State	WA	Postcode	6230
Contact phone number (1)		Phone number (2)	

2.4 Electronic correspondence consent

Both the Department of Water and Environmental Regulation (DWER) and Department of Mines, Industry Regulation and Safety (DMIRS) prefer to send all correspondence via email. We request that you consent to receiving all correspondence relating to instruments and notices under Part V of the EP Act via email. Please indicate your consent in this section of the form.

I consent that all written correspondence between myself (the applicant) and DWER/DMIRS (as applicable) about the subject of this form will be exclusively via email, using the email address provided above.	☒ Yes ☐ No

2.5 Contact details for enquiries

If different from the applicant's contact details, enter the contact details of a person with whom DWER or DMIRS should liaise with (e.g. a consultant).

Same as applicant's contact details	☐ Yes ☒ No

If 'No' – complete the following:

Contact name	Michael Lundstrom		
Position (if applicable)	Principal Consultant		
Company name (if applicable)	Lundstrom Environmental Consultants Pty Ltd		
Contact phone number (1)		Phone number (2)	0438948226
Business or postal address line 1	21		
Business or postal address line 2	Sellen Court		
Suburb	Leeming		
State	WA	Postcode	6149
Email address	admin@lundstrom-environmental.com.au cc. mikelund1@bigpond.com		

Part 3 – Land details

- You must accurately describe the location of the land where your clearing is proposed.
- If you have a large number of properties, please provide the relevant details for each property in a separately attached supporting document.

3.1 Property details

I have a large number of properties and have given the relevant details in an attached supporting document.	☐ Yes – skip to Part 4 ☒ No

If 'No' – complete the following:

Land description Provide the following details, as applicable, for all properties: – volume and folio number – lot or location number(s) – crown lease or reserve number – pastoral lease number – mining tenement number	Lot 7 on Diagram 40591, Volume 1358, Folio 260		
Street address – Line 1	Lot 7 Runnymede Road		
Street address – Line 2			
Suburb	Wellesley		
State	WA	Postcode	6233
Local government area(s)	Shire of Harvey		
Land zoning	The property is zoned as "General Farming" in terms of the Shire of Harvey Town Planning Scheme No. 1 and "Rural" in terms of the Greater Bunbury Region Scheme.		

Part 4 – Relationship to landowner

Tell us which of the following options best describes you as the person completing and submitting this form. If you are filling out this form on behalf of the applicant, answer this question as though you are the applicant.

Proof of ownership may include:

- a certificate of title (that is less than 6 months old)
- a pastoral or mining lease
- public authority that has care, control or management of the land
- other form of lease, land tenure or specific arrangement.

Relationship to landowner ***(select one of the following options)***	**Complete the following**
☐ I am the landowner	☐ Attach *proof of ownership*
☒ I am lodging a form on behalf of the landowner (e.g. a consultant)	☒ Attach *proof of ownership*
☐ I am acting on the landowner's behalf and will be jointly responsible for the clearing permit (i.e. joint form)	☐ Attach *proof of ownership* ☐ Complete and attach an '*Acting on behalf and jointly responsible'* letter
☐ I am likely to become the landowner	☐ Attach the Certificate of Title ☐ Attach evidence of the pending transfer of ownership and/or contract of sale ('offer and acceptance')
☐ I will undertake the clearing activities with the landowner's authority and will be the permit holder	☐ Attach *proof of ownership* ☐ Complete and attach an '*Authority to access and clear native vegetation'* letter (if the applicant is not the landowner)
☐ A person with multiple land parcels	☐ Attach *proof of ownership* ☐ Complete and attach '*Authority to access and clear native vegetation'* letter (if the applicant is not the landowner)

Part 5 – Proposed clearing

Select which map type(s) you will attach with your form. Note: We will decline / return forms (as applicable) if you do not provide sufficient information for this question.	☒ An ESRI shapefile with the following properties *(preferred)* • Geometry type: polygon shape • Coordinate system: Geocentric Datum of Australia (GDA) 1994/2020 (geographic latitude / longitude) • Datum: GDA 1994 / GDA 2020 (please specify which was provided) ☐ An aerial photograph or map with a north arrow, clearly marking the proposed clearing area Note: • An ESRI shapefile must use one of the following filename extensions: .shp, .shx, .dbf, and/or .prj • You must provide an ESRI shapefile if the form requires an assessment under an *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) accredited process. See Part 8 of this form for more information.

5.1 Maps and/or spatial data

5.2 Size

- If you propose to clear a patch(s) of vegetation, enter a hectare value for the total size of the area (mark number of trees as zero).
- If you propose to remove only individual trees from the area(s) (i.e. the shrubs, grasses, groundcover plants will remain intact), provide the number of trees (and mark total area as estimated hectares).
  Note: If any shrubs, grasses, and/or groundcover plants MAY be damaged in the clearing process, add this to the total area.
- If you propose to clear an area of vegetation within a larger footprint, enter the hectare value for the total size of the area to be cleared (mark number of trees as zero) and the size of the footprint. For example, 5 hectares of clearing within a 10 hectare footprint. This option is only available for *purpose permit* applications.
- Enter values for BOTH number of trees and the size of the area if you are clearing individual trees in one area AND a patch of vegetation in a different area.
- Please note the following area conversions/calculations:

1 hectare = 10,000 m^2	Area of circle = 3.14 x $radius^2$
1 acre = 0.4 hectares / 4,000 m^2	Area of a rectangle = length x width
1 tree = 0.01 hectares / 100 m^2	Area of a triangle = ½ length x perpendicular height

Total area of clearing proposed (hectares)	0.84 ha
Footprint of clearing (hectares) (purpose permit only)	
Number of individual trees to be removed	

Note: Calculate the area of a tree based on the area encompassed by the tree's drip line; that being the outermost circumference of the tree's canopy.

5.3 Purpose

Provide the reason for proposed clearing (e.g. road construction, grazing and pasture, hazard reduction, horticulture, timber harvesting etc.)	Extractive industry (sand quarry)
Specify what the final land use will be after clearing	Pastures

5.4 Method

Proposed method of clearing (i.e. burning, cutting, draining, flooding, grazing, mechanical clearing/bulldozing or other – specify)	Mechanical clearing

5.5 Timeframe

Period within which you propose to do the clearing (e.g. 1/7/2022 to 30/8/2024)	Start date: 01/08/2022 End date: 30/12/2024

Note: The clearing referral process is not suitable for any clearing that is expected to take longer than two years.

5.6 Avoidance and mitigation

Explain how you have, or will, put avoidance and mitigation measures in place to eliminate, reduce, or otherwise mitigate the need for and scale of the proposed clearing of native vegetation.

Attach supporting documents to substantiate your explanation.

Your explanation should demonstrate you have planned the project so that the least clearing possible is to be undertaken. The following questions may help you frame your explanation:

- Why did you select this location and amount of clearing?
- What alternatives to clearing – e.g. engineering solutions – did you consider?
- What changes, if any, did you make to the location or amount of clearing to reduce the impacts of the clearing?

Note: If you do not demonstrate adequate efforts to avoid and mitigate clearing, we will ask you to do so during the validation of this form.

Provide the avoidance and mitigation details	It is proposed to extract a total of approximately 70,000m^3 of sand from an area of 1.19ha immediately to the east and south of the existing approved sand quarry on Lot 7 Runnymede Rd, Wellesley, Shire of Harvey. The existing sand quarry consists of the original 15.6ha over Stages 1 to 3, plus 1.9ha for the recently approved Stage 4. The new area is considered an extension of Stage 4 of Lot 7 Runnymede Rd Sand Quarry and has been delineated to accommodate Main Roads WA sand quarry on the adjacent property Lot 21 Runnymede Rd (north of Lot 7) – sand is

	required for the scheduled road extensions in the greater Bunbury area, in particular the Bunbury Outer Ring Road (BORR). The new extraction area will require the clearing of 0.84ha of native vegetation. The impact/clearing area is only 0.84ha as the proposed sand extraction area is sparsely vegetated with areas of no vegetation.

Part 6 – Offset

Do you want to submit a clearing offset proposal with your form?	☐ Yes ☒ No
If 'Yes' – please complete and attach Appendix A of the *Clearing of native vegetation offsets procedure* guideline as a supporting document for your form.	☐ Appendix A attached

Part 7 – Surveys for assessments (IBSA and IMSA)

Do you want to submit marine or biodiversity surveys in support of your form?	☒ Yes ☐ No – skip to Part 8

7.1 Biodiversity surveys

If you want to submit any biodiversity surveys to support this form, you must follow the Environmental Protection Authority's (EPA) *Instructions for the preparation of data packages for the Index of Biodiversity Surveys for Assessments* (IBSA). If you do not meet the IBSA requirements, DWER/DMIRS (as applicable) may decline/return your form.

Please provide the IBSA number(s) – or submission number(s) if the IBSA number has not yet been issued – in the space provided. Note that a submission number is not confirmation that a biodiversity survey has been accepted and is not the same as an IBSA number. IBSA numbers are only issued once a survey has been accepted. Once an IBSA number is issued, please notify DWER/DMIRS (as applicable). Please note DWER / DMIRS will suspend the assessment timeframes for your form until you provide the IBSA number(s).

Have you submitted all the biodiversity surveys that support this form to the Index of Biodiversity Surveys for Assessment, available at ibsasubmissions.dwer.wa.gov.au?	☒ Yes ☐ Not applicable
Provide an IBSA number (preferred) or a submission number(s)	IBSA-2021-0420 IBSA-2021-0525

7.2 Marine surveys

If you want to submit any marine surveys to support this form, you must follow the EPA's *Instructions for the preparation of data packages for the Index of Marine Surveys for Assessments* (IMSA). If you do not meet the IMSA requirements, DWER may decline/return your form.

Have you prepared all the marine surveys that support this form in accordance with the EPA's *Instructions for the preparation of data packages for the Index of Marine Surveys for Assessments*?	☐ Yes ☒ Not applicable

Part 8 – Assessment Bilateral Agreement

The native vegetation clearing processes under Part V of the EP Act have been accredited by the Commonwealth of Australia under the EPBC Act and so can be assessed under an assessment bilateral agreement.

To be assessed this way, the proposed clearing action must have been referred to the Commonwealth under the EPBC Act and deemed a **'controlled action'** before you submit this form.

For further information, see DWER's website guidance on the assessment bilateral agreement.

Is your proposed clearing a controlled action?	☐ Yes ☒ No – skip to Part 9

If 'Yes' – complete the following:

Please make sure you have entered all the mandatory details in the *Annex C7 form*	☐ *Annex C7 form* attached
List the controlling provisions identified in the notification of the controlled action decision	

Part 9 – Other approvals

Which department are you submitting this form to? If the clearing is for mineral and petroleum activities authorised under the *Mining Act 1978*, the various Petroleum Acts, and/or a State Agreement Act, select 'Department of Mines, Industry Regulation and Safety'. For all other clearing activities, select 'Department of Water and Environmental Regulation'.	☐ Department of Mines, Industry Regulation and Safety ☒ Department of Water and Environmental Regulation

9.1 Environmental impact assessment (Part IV of the EP Act)

Clearing may be referred to the EPA if it is considered to be part of a 'significant proposal', as defined by section 37B(1) of the EP Act, or will likely to be part of a larger development. An example is when the clearing is for a road to a future mine.

Section 37B(1) of the EP Act defines a 'significant proposal' as "a proposal likely, if implemented, to have a significant effect on the environment". If a decision-making authority (e.g. DWER or DMIRS) considers the proposal in this form is likely to constitute a 'significant proposal', under section 38(5) of the EP Act they must refer the proposal to the EPA or for assessment under Part IV, if such a referral has not already been made.

Has the proposed clearing or any related matter been referred to the EPA?	☐ Yes Enter details: [ ] ☒ No – complete question below.
If 'No' – do you intend to refer the proposal to the EPA?	☐ Yes – intend to refer (proposal is a 'significant proposal') ☐ Yes – intend to refer (proposal will require a section 45C amendment to the current Ministerial Statement) ☐ No – a current valid Ministerial Statement applies Enter Ministerial Statement number: [ ] ☒ No – not a significant proposal

9.2 Other approvals – pre-application scoping (DWER forms only)

Have you had any pre-application/ pre-referral/ scoping meetings with DWER about any planned applications?	☐ Yes Enter details: [ ] ☒ No

9.3 Other approvals – works approval, licence or registration (Part V Division 3 of the EP Act)

Have you applied or do you intend to apply for a works approval, licence, registration or an amendment to any of the above, under Part V Division 3 of the EP Act? It is an offence to perform any action that would cause a premises to become a prescribed premises of a type listed in Schedule 1 of the Environmental Protection Regulations 1987, unless that action is done in accordance with a works approval, licence or registration. For further guidance, see DWER's *Procedure: Prescribed premises works approvals and licences* and *Guideline: Industry regulation guide to licensing*.	☐ Yes Application reference: [ ] ☐ No – a valid works approval applies ☐ No – a valid licence applies ☐ No – a valid registration applies ☒ No – not required

9.4 Water licences and permits (*Rights in Water and Irrigation Act 1914)*

Have you applied or do you intend to apply for: • a licence or amendment to a licence to take water (surface water or groundwater) • a licence or amendment to a licence to construct wells (including bores and soaks), or • a permit or amendment to a permit to interfere with the bed and banks of a watercourse? For further guidance on water licences and permits under the *Rights in Water and Irrigation Act 1914*, see DWER's *Procedure: Water licences and permits*.	☐ Yes ☒ No – a current valid licence applies Licence number: GWL165046 ☐ Not applicable

Part 10 – Prescribed fee

10.1 Referral or application?

There are no prescribed fees for referrals. Is this form a referral of proposed clearing or an application for a new permit?	☐ Referral – skip to Part 11 ☒ Application – continue and complete Part 10

10.2 Calculating the application fees

You must pay the prescribed fee at the time you submit the application form.

Please calculate the prescribed fee using the online clearing permit fee calculator tool.

For further guidance, see DWER's online clearing fees frequently asked questions.

Calculated fee:	$2400

10.3 Payment method

Fees are payable to:

- **DWER** for all clearing purposes other than mineral and petroleum activities

  OR
- **DMIRS** for mineral and petroleum clearing activities under the *Mining Act 1978*, various Petroleum Acts, or State Agreement Acts.

<table>
<tr>
<td>Please indicate how you would like to pay your application fee. Select one option only.

DWER will only accept fees paid via either:
• DWER's BPoint system (go to www.dwer.wa.gov.au/make-a-payment)
• secure EFT payment, or
• cheque/money order.

DMIRS will only accept fees paid via secure credit card payment at the DMIRS online payment and application lodgement portal.

Do not send cash in the mail.</td>
<td>☒ (DWER) Secure credit card payment through BPoint

See www.dwer.wa.gov.au/make-a-payment.

<table>
<tr><td>Receipt number</td><td>2503 0784 555</td></tr>
<tr><td>Date of payment</td><td>06/07/2022</td></tr>
</table>

☐ (DWER) Secure EFT payment

See www.dwer.wa.gov.au/make-a-payment for payment details.

State the name of the intended permit holder clearly in the EFT payment subject.

<table>
<tr><td>Date of payment</td><td></td></tr>
</table>

☐ (DWER) Cheque/money order

Please make cheques or money orders payable to the Department of Water and Environmental Regulation.

☐ (DMIRS) Secure credit card payment online at the DMIRS online payment and application lodgement portal.

Please note: All DMIRS applications will be paid online and submitted simultaneously. Please save this application form, along with any supporting documents, and have them ready for the submission portal. Use the link above to pay for and submit your application.

A receipt will be issued upon submission only. Please ensure this receipt is saved for your records.</td>
</tr>
</table>

For further information on fees, go to the clearing permit fees frequently asked questions page on DWER's website.

Part 11 – Form checklist

Please ensure you have included the following as part of your form. You may also attach additional information to support the assessment of your proposal, for example, reports on salinity, fauna or flora studies or other environmental reports for the site. You should submit these in electronic format on a suitable portable digital storage device.

Required

☒ Proof of land ownership (see attachment requirements in Part 4).

☒ An aerial photograph and/or map with a north arrow that clearly shows the areas of vegetation for proposed clearing or an ESRI shapefile (see Part 5).

☒ If this form is a permit application, payment of the prescribed fee (see Part 10).

As required

☒ Copy of written authority to act on behalf of landowner (see Part 4).

☐ Evidence of the pending transfer of land ownership, such as the offer and acceptance, or written notice from the current landowner.

☐ If you want the form to be assessed under the assessment bilateral agreement, include all details the Annex C7 form asks for, such as 'Proposed clearing action and impact assessment details' and 'Consultation' information.

☐ If the form includes a proposal for clearing offsets, include Appendix A of the *Clearing of native vegetation offsets procedure* guideline.

☒ IBSA number.

Additional supporting information

☐ Photos of the area.

☐ Biodiversity surveys that follow the EPA's *Instructions for the preparation of IBSA data packages*.

☐ Any other additional supporting information.

Part 12 – Request for exemption from publication

The information you submit as part of this form will be made publicly available. If you wish to submit commercially or otherwise sensitive or confidential information, please identify the information in this section, and include a written statement of the reasons why you request each item of information be kept confidential.

DWER and DMIRS will take reasonable steps under Part 3 of the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (the Clearing Regulations) to protect confidential material and/or otherwise sensitive information (such as information of a kind listed under regulation 13 of the Clearing Regulations).

However, please note that DWER and DMIRS cannot commit to redacting all personal information from all supporting documents. We advise you to remove all personal information, including signatures, from any supporting documents before you submit them to us. Please note that all the information you submit may become the subject of an application for release under the *Freedom of Information Act 1992* (WA) (FOI Act).

You must identify all information in this form or attached supporting documents that you propose to be exempt from public disclosure in the table below. You must then attach a separate redacted version of this form and its supporting documents. This is in addition to the unredacted version(s) you submit to DWER/DMIRS (as applicable) for assessment. You must specify the grounds for claiming an exemption in accordance with Part 3 of the Clearing Regulations.

<table>
<tr><td>Is any information in this form or in any attached supporting documents confidential or commercially sensitive?</td><td>☐ Yes<table><tr><td>Specify what part of this form or relevant attachment</td><td></td></tr><tr><td>Specify grounds for claiming exemption from publication</td><td></td></tr></table>☒ No</td></tr>
<tr><td>Attach file(s) with the relevant confidential information redacted</td><td>☐ File name:
☐ File name:
☐ File name:</td></tr>
</table>

Part 13 – Declaration

General

I / We declare and acknowledge that:

- the information I / we have provided in this form is true and correct
- I / we have legal authority to sign on behalf of the applicant (where authorisation provided)
- I / we have been authorised to make this form by the owner of the land (as applicable)
- I / we have not altered the requirements and instructions set out in this form
- I / we have provided a valid email address in Part 2 for receipt of correspondence via email from DWER or DMIRS (as applicable) in relation to this form
- successful delivery to my / our server constitutes receipt of correspondence and service of any statutory notices or instruments, and
- giving or causing to be given information that to my knowledge is false or misleading is an offence under section 112 of the EP Act and may incur a penalty of up to $50,000.

Publication

I/We declare and/or acknowledge that:

- this form (including all attachments) will be a public document and may be published, except for personal information including personal signatures, email and home addresses and any documents verifying my / our identity
- the marine surveys provided in accordance with Part 7 will be published and used for the purposes of the IMSA project, in accordance with your declaration made in the Metadata and Licensing Statement
- all necessary consents for the publication of information have been obtained from the relevant third parties
- the specification of the information identified in Part 12 constitutes a written request under regulation 11(2) of the Clearing Regulations not to publish that information due to its confidential or otherwise sensitive nature
- subsequent information provided to DWER or DMIRS (as applicable) in relation to this form will be a public document and will be published under regulation 8A of the Clearing Regulations, unless accompanied by a further written request under regulation 11(2) by the referrer or applicant that that information be treated as confidential
- in accordance with the requirements of regulations 11, 12 and 13 of the Clearing Regulations, DWER or DMIRS (as applicable) must refrain from publishing bank account details or confidential material (as defined under regulation 11(1) of the Clearing Regulations)
- DWER or DMIRS (as applicable) may refrain from publishing:
    - certain otherwise sensitive information identified in Part 12, if satisfied it is desirable to not publish due to the confidential nature of the information
    - personal information or certain otherwise sensitive information listed under regulation 13 of the Clearing Regulations.

Are you signing as an individual or a company? Note: A person expressly authorised or authorised to execute on behalf of a body corporate must sign this form.	☐ An individual ☒ A company ☐ Other entity formed at law

☒ I / We hereby declare, the information provided is correct.

Signature			
Name	Bill Catalano		
Date declaration signed	7/07/2022		
Position (if applicable)	Director		
Company or organisation (if applicable)	B & J Catalano	ACN:	008961975

Note that all persons who will be listed on any clearing permit granted for this application as holders of the permit must sign the application form. If more than one signature is required, attach all signatures together in a separate attachment.

Part 14 – Submission

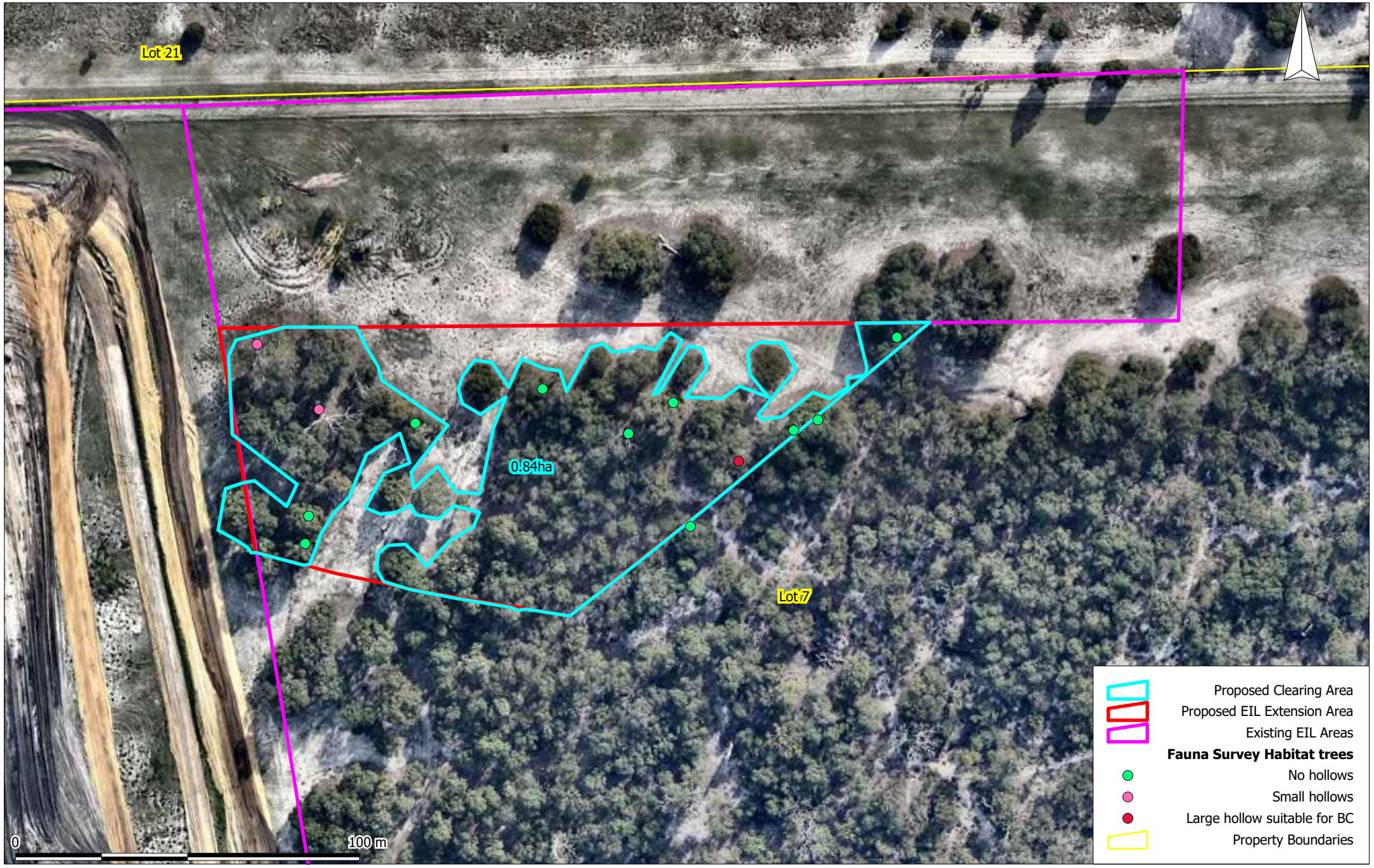
14.1 Method of submission

Confirm how you will submit your form *(mark one option only)*. **To submit to DWER:** Files larger than 50MB cannot be received via email. You can email DWER to make other arrangements for electronic transfer. **To submit to DMIRS:** The DMIRS online portal can accept 1024MB for each attachment. Files larger than 45MB cannot be received via email. You can email DMIRS to make other arrangements for electronic transfer.	☒ A signed, electronic copy of the form, including all attachments, has been submitted via the applicable email address specified below **(if submitting form to DWER)**. ☐ A signed, electronic copy of the form has been submitted via the applicable email address specified below, and attachments have been submitted via File Transfer, or electronically by other means as arranged with the relevant department **(if submitting form to DWER)**. ☐ A full, signed hard copy has been sent to the applicable postal address specified below **(if submitting form to DWER)**. ☐ A signed electronic copy of the form, fee payment, and any supporting documentation has been saved and uploaded to the *DMIRS online payment and application lodgement portal* **(if submitting form to DMIRS)**.

14.2 Submission details

- Please retain a copy of this form for your records.
- We will decline or return incomplete forms that do not meet the requirements for a valid referral or permit application (as applicable).
- If you do not have enough space on any part of this form, please continue on a separate sheet of paper and attach it to this form.

Department of Water and Environmental Regulation Forms for all clearing purposes (other than mining and petroleum activities) may be submitted via: **Email:** info@dwer.wa.gov.au **or** **Post:** Department of Water and Environmental Regulation Locked Bag 10 Joondalup DC WA 6919 If you have any questions about lodging your form, please contact DWER via: **Email:** info@dwer.wa.gov.au **Phone:** (08) 6364 7000 For more information: www.dwer.wa.gov.au	**Department of Mines, Industry Regulation and Safety** Forms related to mining and petroleum clearing activities (under delegation) can be lodged online via the *DMIRS online payment and application lodgement portal*. If you have any questions about lodging your form, please contact DMIRS via: **Email:** nvab@dmirs.wa.gov.au **Phone:** (08) 9222 3535 For more information: www.dmirs.wa.gov.au



Lundstrom Environmental Consultants Pty Ltd
Leeming WA 6149
Mob: 0417934863, mikelund1@bigpond.com

Scale: 1:1400
Original Size: A4
Air Photo Source: Nearmap May 2021
Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Sand Extraction
Location: Lot 7 Runnymede Rd, Wellesley

Figure 1:
Clearing Footprint

Z:\Catalano\Runnymede Rd Lots 4 & 7_Wellesley_SoH_Sand\Lot 7 Runnymede Rd\CPS\CP Applications\2022\Drawings\Lot 7 CP for Extension EIL 2021.map 5/07/2022

State Administrative Tribunal

Planning and Development Act 2005

Matter No. DR 63 of 2022

IN THE MATTER OF

Catalano Pty Ltd Applicant

and

The Shire of Harvey Respondent

STATEMENT OF STEPHEN GEOFFREY ALLERDING

Date of Document	18 July 2022
Date of Filing	18 July 2022
Prepared for:	B&J Catalano Pty Ltd
Prepared by:	
Steve Allerding	Ph: 9382 3000
Allerding and Associates	
125 Hamersley Road	Email: reception@allerdingassoc.com
SUBIACO WA 6008	Ref: CAT RUN GE

INTRODUCTION

1. My full name is Stephen Geoffrey Allerding of 125 Hamersley Road, Subiaco.

2. I am a Town Planner and Director of Allerding & Associates, Town Planning Consultants.

3. My Curriculum Vitae is attached as **Annexure SGA1**.

4. I have been retained by the Applicant to provide an independent planning assessment of the proposal which is the subject of this Application for the purpose of preparation of this Statement.

5. I confirm that the comments contained in this Statement are a true and accurate record of my views and opinions in relation to this matter.

ANNEXURES

6. In addition to **Annexure SGA1** referred to above, the following documents are provided as Annexures to this Statement –

   ANNEXURE SGA2 – Report and supporting information submitted with the application, prepared by Lundstrom Environmental Pty Ltd, dated September 2021

   ANNEXURE SGA3 – Refusal Notice dated 15 February 2022, including stamped plans

   ANNEXURE SGA4 – BORR Plan and Details

   ANNEXURE SGA5 – Locality, Site & Aerial Plans

   ANNEXURE SGS6 – SGS Resource Overlaid on aerial photograph of the locality

   ANNEXURE SGA7 – Zoning Plans

   ANNEXURE SGA8 – GBRS Text

   ANNEXURE SGA9 – Greater Bunbury Strategy

   ANNEXURE SGA10 – Bunbury Geographe Sub-Regional Strategy

   ANNEXURE SGA11 – SPP2.4 Basic Raw Materials

   ANNEXURE SGA12 – Shire of Harvey's TPS 1

ANNEXURE SGA13 – Shire of Harvey Local Planning Strategy

ANNEXURE SGA14 – SPP1.0 State Planning Framework

ANNEXURE SGA15 – SPP2.0 Environmental and Natural Resources Policy

ANNEXURE SGA16 – SPP2.5 Rural Planning Policy

ANNEXURE SGA17 – GBRS Strategic Minerals and Basic Raw Materials Reserve Policy

ANNEXURE SGA 18 – Harvey Kemerton Industrial Area Structure Plan

7. I refer to the background information relating to this matter contained in the submissions filed by Thomson Geer. Terms defined in those submissions are used in this Statement with the same meanings.

PLANNING FRAMEWORK

8. Lot 7, and the Review Site within Lot 7, has the following planning framework designations:

    - Is zoned Rural pursuant to the Greater Bunbury Region Scheme (**GBRS**) and within a Special Control Area No. 2 (**SCA2**) (refer to Zoning Plans in **Annexure SGA7)**;
    - Is zoned Kemerton Buffer pursuant to the Shire of Harvey District Planning Scheme No. 1 (**TPS1**) (refer to Zoning Plans in **Annexure SGA7)**; and
    - Is identified in the **GBRS** Strategic Minerals and Basic Raw Materials Resources Policy, and the State Planning Policy 2.4 – Basic Raw Materials Policy (**SPP2.4**) as being within an area of Significant Geological Supplies (**SGS**) for sand (**Annexure SGA6**).

9. The relevance and significance of these designations is discussed further in this Statement.

10. I have considered the appropriateness of the Extractive Industry with the applicable State and Local Planning Framework. The Planning Framework documents that have been primarily considered for the purpose of this Witness Statement include the following:

    - The Western Australian Planning Commission's (**WAPC**) Greater Bunbury Region Scheme (**GBRS**) (**Annexure SGA8**);
    - WAPC's Greater Bunbury Strategy (**GBS**) (**Annexure SGA9**)**;**

- The Bunbury Geographe Sub-Regional Strategy (**Annexure SGA10)**;
- WAPC's SPP2.4 Basic Raw Materials Policy (**SPP 2.4**) (**Annexure SGA11**)**;**
- The Shire of Harvey District Planning Scheme No.1 (**Annexure SGA12**);
- Shire of Harvey's Local Planning Strategy (**Annexure SGA13**);
- State Planning Policy 1.0 – State Planning Framework (**SPP1**) (**Annexure SGA14**);
- State Planning Policy 2.0 – Environment and Natural Resources Policy (**SPP2**) (**Annexure SGA15**);
- State Planning Policy 2.5 – Rural Planning (**SPP2.5**) (**Annexure SGA16**);
- The Greater Bunbury Region Scheme Strategic Minerals and Basic Raw Materials Reserve Policy (**Annexure SGA17**);
- Harvey Kemerton Industrial Area Structure Plan (**Annexure SGA18**);
- The *Planning and Development (Local Planning Scheme) Regulations 2015* (**Planning Regulations**).

11. These documents have differing weight and status, and these will be identified as and where necessary as part of the consideration within this Witness Statement.

CONSIDERATION OF THE PLANNING FRAMEWORK

Site Context – State Strategic

12. Section 3(1) (c) of the *Planning & Development Act 2005* (**P & D Act**) identifies that one of its purposes is to:

> *"Promote the sustainable use and development of land in the State."*

13. Having regard to that purpose, SPP1 establishes the land use planning and development principles that ought to apply to achieve sustainable planning outcomes.

14. SPP1 seeks to achieve decisions that provide for the sustainable use and development of land by requiring that both strategic and statutory planning take a balanced approach to consider a range of principles, not just relating to one element (and relevantly in this matter, the environment).

15. These are outlined in Figure 1 of SPP1 and include:

- Community;
- Economy;
- Environment;
- Infrastructure;
- Regional Development;
- Governance.

16. A key component of SPP1 is to establish a hierarchical framework to identify those documents and principles that ought to be considered for the purpose of both strategic and statutory planning.

17. Planning often has competing interests between economic, social and environmental outcomes. Consequently, where such matters arise, there is a need to take into context the relevant planning instruments to achieve the core purpose of the sustainable use and development of land.

18. With respect to this Application, the key framework outlined under SPP1 is as follows:

Table 1 – SPP1 Planning Framework Applicable to the Review Site

State Planning Policies	
Environment	Environmental & Natural Resources (SPP2.0) (**Annexure SGA15**) Basic Raw Materials (SPP2.4) (**Annexure SGA11**)
Community Urban Growth & Settlement	Rural Planning (SPP2.5) (**Annexure SGA16**)
Regional and Sub-Regional Strategies	
Regional Strategies – South West Regional Planning & Infrastructure Framework	Sub-Regional Strategies – Greater Bunbury Strategy (**Annexure SGA9**) Bunbury Geographe Sub-Regional Strategy*(not yet listed but relevant) (**Annexure SGA10**)
Operational Policies	
Economy, Infrastructure and Regional Development	Greater Bunbury Region Scheme - Strategic Minerals and Basic Raw Materials Resources Policy (**Annexure SGA17**)

19. Specific environmental considerations are addressed in the Statement of Mike Lundstrom for the Applicant. However, in context with the evidence from Mr Lundstrom, I have considered the other components of the State Planning Framework that address economic and social matters for contextual purposes in more detail.

20. The high-level State Planning Policies and Regional Strategies outlined in **Table 1** provide the broad level planning principles with more refined details and implementation established within the various Sub-Regional and Operational Policies listed above. These are briefly summarised below in **Table 2** as they apply to the Review Site.

Table 2 – Summary of SPP1 Planning Instruments

State Planning Framework	
Environmental & Natural Resources (SPP2.0) (**Annexure SGA15**)	The Objectives of the policy under Section 4 (P2050) are: • To integrate environment and natural resource management with broader land use planning and decision making; • To protect, conserve and enhance the natural environment, • To promote and assist in the wise and sustainable use and management of natural resources Clause 5.7 provides the policy measures as they apply to Basic raw materials and recognises that mineral resources……[*and basic raw materials are important natural resource assets and are a vital part of the economy*] (P2054). It also recognises that basic raw materials (including limestone) *"….close to developing areas is required in order to keep down the cost of land development and the price of housing"* (PP2054). Clause 5.7 notes that "*planning strategies, schemes and decision making should"*: • Identify and protect important and economic mineral resources to enable mineral exploration….in accordance with acceptable environmental standards • Identify and protect important basic raw materials resources and provide for their extraction and use in accordance with SPP10 – Basic Raw Materials • Support sequencing of uses where appropriate to maximise options and resultant benefits to the community and the environment (PP2054) .
Basic Raw Materials Policy (SPP2.4) (**Annexure SGA11**)	A copy of SPP2.4 is included as **Annexure SGA11.** As noted in **Annexure SGA6** the portion of Lot 7 that is subject of this Application for Review is included within an area identified under SPP2.4 as a Significant Geological Supply (**SGS**). An SGS is noted under Section 3.1 (P1) of SPP2.4 in the following terms: *Significant Geological Supplies (**SGS**) – are identified as the highest priority extraction areas for BRM. SGS are BRM identified by the Department of Mines, Industry Regulation and Safety (**DMIRS**) that represent strategic, long term supplies of BRM requiring protection.* The Policy objectives under SPP2.4 are outlined below under Section 5: • Ensure BRM and its regional importance is considered at the earliest stages of the planning process; • Protect BRM in SGS areas and ES by avoiding encroachment from incompatible land uses; • Ensure BRM resources are used efficiently in land use planning and development; • Identify BRM extraction opportunities through sequential land use without compromising the final intended land use; and

	• Ensure the extraction of BRM avoids, minimises or mitigates any adverse impacts on the community, water resources and biodiversity values. Section 6.2 identifies under Local Planning Instruments should, where appropriate under Section 6.2 (b): *(b) not compromise the extraction of resources on SGS areas and ES.* With respect to the Policy Objectives relating to ensuring that extraction of BRM avoids, minimises or mitigates impacts on biodiversity values, these are separately addressed in the Statement of Mike Lundstrom. To the extent that clearing is occurring to accommodate the proposed extraction, Mr Lundstrom has identified the proposed environmental measures that avoid, minimise and mitigates the impact on such biodiversity values. This is discussed further in this Statement.
Rural Planning – SPP2.5 (**Annexure SGA16**)	Clause 5.9 of SPP2.5 outlines the Policy measure for basic raw materials outside the Perth and Peel Planning Regions. It recognises that basic raw materials are essential for the construction of buildings, roads and other infrastructure and also for the sustainability of agricultural production. (P8) The extraction of basic raw materials does not presume that extraction would be environmentally acceptable and obligates a proponent and decision maker to ensure that proposals are environmentally acceptable. (P8) The WAPC's Policy for BRM outside the Perth and Peel Planning regions is summarised below. a) Significant Geological Supplies is not to be developed for other purposes until the resource is extracted. b) Significant Geological Supplies and basic raw material resources should be identified in sub-regional and/or local planning strategies. c) Region and Local Planning Schemes should identify Significant Geological Supplies and basic raw material resources and include provisions for their protection, access and use. d) Basic raw material resources on Site should be identified in Local Planning Strategies and Schemes as required. e) Regional and Local Planning Schemes should not generally prohibit the extraction of basic raw materials. f) Sequential land use planning is encouraged whereby extraction and appropriate rehabilitation can take place on a programmed basis. g) Where basic raw material resources are located with native vegetation or significant bio-diversity values extraction may require referral under part 4 or 5 of the Environmental Protection Act 1986. h) Planning decision makers are to have due regard to advice from environmental agencies that consider potential impacts on fragmentation and connectivity of remnant vegetation… It should be noted that since this policy was last amended in 2017, SPP2.4 only applied to the Perth Metropolitan Region. It has now been amended to include SGS identified throughout the State including the Review Site.
Greater Bunbury Strategy (**GBS**) (**Annexure SGA9**)	A copy of the Greater Bunbury Strategy 2013 (**GBS**) is included as **Annexure SGA9.** The GBS has been prepared by the Department of Planning to guide Urban, Industrial and Regional Land Use Planning, and associated infrastructure delivery in the Greater Bunbury Sub-Region in the short medium and long term. The strategy provides for the necessary land uses to accommodate a potential growth from 83,000 people (2011) to over 150,000 people (page 2) in a compact and connected city.

	To accommodate that growth, the Greater Bunbury Region will require access to a significant supply of Basic Raw Materials, including sand. In recognition of the importance of BRM, on page 27 of that document, it identifies the future tasks required from the GBS with respect to the protection of basic raw materials to achieve the strategy aims in the following terms: *"Preparation of a Basic Raw Materials Strategy for the Greater Bunbury Sub-Region have with regards to the needs of the South-West, Perth and Peel Regions."* Consistent with that Policy requirement the WAPC then prepared the Greater Bunbury Region Scheme Strategic Minerals and Basic Raw Materials Resource Policy in 2018 outlined further below.
Bunbury Geographe Sub Regional Strategy (**Annexure SGA10**)	The Sub-Regional Strategy was adopted by the Western Australian Planning Commission (**WAPC**) in January 2022. A copy of the Sub-Regional Strategy is included as **Annexure SGA10**. The purpose of the Sub-Regional Strategy is to plan and manage growth in the Bunbury Geographe Sub-Region by establishing a vision to 2050 to guide land use planning and expressing an agreed aspiration for the future of the Sub-Region in the context of the State Planning Framework. This includes re-affirming the status of Bunbury as the State's Second City, defining the Sub-Region settlement hierarchy and identifying future land requirements of Urban, Industrial, Commercial and other purposes. The Sub-Regional Strategy encompasses a larger area than the Greater Bunbury Strategy. The extent of the Sub-Regional Strategy is identified on the plan in page 12 of the document. Section 7.0 of the Sub-Regional Strategy identifies the populations scenarios ranging from base line growth (i.e. current population and employment growth trends continue) through to boom (i.e. a steady above trend rate shocked with Government intervention and/or major investment cycles). In particular, Section 7.2 identifies the target population for Bunbury Geographe to reach its full potential comprising the sub-regions population growth to 200,000 over the next 20 to 30 years (up from 106,000 in 2016). The strategy adopts 200,000 under Section 7.3 as a target population to inform land requirements and help guide the delivery of infrastructure and services. With respect to Basic Raw Materials, the Sub-Regional Strategy affirms the significance of Basic Raw Materials under Section 18.4 (Page 38) and Map 10 (Page 68). Section 18.4 of the Sub-Regional Strategy identifies the importance of Basic Raw Materials in the following terms: *Basic raw materials (BRM) include sand, limestone, gravel, clay, gypsum, hard rock, agricultural lime and other construction and road building materials.* *These materials are required for a number of uses with most relating to the construction industry including buildings, fill, roads and retaining walls. It is important to have access to local sources as this reduces costs and pollution associated with transportation.* *There are numerous operating and potential BRM extraction sites in the sub-region (see Map 10). More than half of these are on Crown reserves vested with the local or State government for gravel. The remaining extraction sites are administered by the various local governments under the Planning and Development Act 2005.*

	Demand for BRM in the Perth and Peel regions is expected to remain high, while access to deposits in those regions is expected to diminish. This is likely to increase demand for BRM from the South West region. *To avoid land degradation and/or sterilisation, post extraction the landscape should preferably be restored to conditions that are similar to the surrounding environment, including physical and biological processes and be able to be used in accordance with the current zoning.* Map 10 of the Sub-Regional Strategy identifies Basic Raw Materials Significant Geological Supplies (including sand) (**SGS**). The SGS supplies for sand are consistent with those identified under the GBRS BRM Policy.
Greater Regional Bunbury Strategic Minerals and Basic Raw Materials Resource Policy (**GBRS BRM Policy**) (**Annexure SGA17**)	A copy of the Greater Bunbury Region Scheme, Strategic Minerals and Basic Raw Materials Resource Policy (**GBRS BRM Policy**) is included in **Annexure SGA17**. The key elements of that policy are outlined below: • The Policy recognises the importance of minerals and basic raw materials as a key economic driver in this State and a major source of employment which has significant flow on effects to other sectors of the economy (Clause 1.1). • The purpose of the Policy is to identify land within the Greater Bunbury Region Scheme Area which contain mineral resources and basic raw materials of state and regional significance (Clause 4.1). • With respect to those resources and materials, the Policy encourages the mining of mineral resources and extraction of basic raw materials in accordance with acceptable environmental standards (Clause 4.3). • Figure 1 of the Policy identifies the Review Site as comprising sand basic raw materials of state and regional significance (Page 8),

Greater Bunbury Region Scheme (GBRS) (**Annexure SGA8**)

22. The Site is subject to the provisions of the Greater Bunbury Region Scheme (**GBRS**). Under the Scheme the land is zoned Rural but is also contained within a Special Control Area No. 2 (**SCA2**). Clause 6 of the GBRS provides the following relevant aims:

> *The aims of the Scheme are to —*
>
> *(a) promote the sustainable development of land taking into account relevant environmental, social and economic factors;*
>
> *(h) protect strategic minerals and basic raw materials of State and regional importance and provide for the efficient and timely extraction of minerals and raw materials and subsequent rehabilitation of affected land.*

23. Clause 14 provides the operation of Special Control Areas. Special Control Area 2 relates to the Kemerton Industrial zone Buffer Area. Clause 18-19 of the GBRS identify the purpose and planning requirements under the SCA2 which are created to ensure that development does not impact on the Core Industrial Activities that will take place within the Kemerton Industrial zone.

24. The Planning requirements under Clause 19 specify uses that are not permitted in SCA2 including sensitive land uses and certain Industrial Land uses including General, Noxious, Hazardous and Light Industry uses. Notably Extractive Industry uses are not listed under Clause 19 of SCA2.

25. As Extractive Industries are not an activity that is required to be specifically considered/called in by the WAPC pursuant to the GBRS there is nothing under the GBRS that would indicate any inconsistency or incompatibility with the proposed use of the land for Extractive Industry. Indeed, such activities are compatible noting that the existence of several Extractive Industries that already operate within the Buffer Area as identified earlier, consistent with their designations as SGS.

*Kemerton Strategic Industrial Area Structure Plan (**Annexure SGA18**)*

26. The Kemerton Strategic Industrial Area Plan (**KSIAP**) was adopted by the WAPC in 2017.

27. Clause 8.2.3 of the KSIAP identifies the provisions as it applies to the Kemerton Industry Buffer zone:

> *Landholdings located within the Kemerton Industry Buffer zone are included within the Special Control Area No.2 of the Greater Bunbury Region Scheme. The Structure Plan does not propose any conceptual subdivision or development within this zone. When considering development applications with respect to land wholly or partly within the Kemerton Industry Buffer zone, applicants are required to satisfy the provisions of Part 5 – Division 3 – Kemerton Industrial Zone Buffer Area and Part 7 – Applications for Planning Approval of the Greater Bunbury Region Scheme.*

28. Consideration has been given to Part 5 of Division 3 and Part 7 – Applications for Planning Approval of GBRS. The proposed use of the land for Extractive Industries is consistent with both the GBRS and the KSIA.

Site Context – Local Planning Framework

*Shire of Harvey - Local Planning Strategy (**Annexure SGA13**)*

29. The Site is contained within the Kemerton Strategic Industrial Area under the Shire's Local Planning Strategy (**Strategy**). A copy of the Strategy is included as **Annexure SGA13**.

30. Map 10 of the Strategy is included denotes that land within the Kemerton Strategic Industrial Buffer Area with an overlay notation as follows:

> *Basic raw materials – Significant Geological Supplies.*

31. The Strategy refers to the KSIA in the following terms:

> *3.6.1.4 Kemerton Strategic Industrial Area Precinct (Map 10)*
>
> *The Kemerton Strategic Industrial Area (KSIA) Structure Plan was approved by the WAPC on 24 May 2017. The KSIA Structure Plan outlines various issues relating to the industrial area including potential future subdivision, provision of rail linkages and environmental measures.*
>
> *The KSIA Structure Plan provides a planning framework and the implementation requirements to guide future development with the KSIA Precinct. The overall objective of the Structure Plan is to enable the establishment of resource processing industries and associated supporting activity in order to fulfil Kemerton's designated role as the primary strategic industrial area for the South-West region.*

32. With specific reference to natural resource areas contained under Clause 3.9 of the LPS, the Shire makes the following specific reference with respect to Basic Raw Materials under Clause 3.9.1 in the following terms:

> *3.9.1 Basic Raw Materials*
>
> *It is noted that the GBRS Strategic Minerals and Basic Raw Materials Resource Policy 2005 identifies several areas as "Strategic Minerals and Basic Raw Materials Resource Policy Areas". It is a requirement of the Policy that these areas are shown on Local Planning Scheme maps and the provisions of the Policy are applied to protect these areas for future mining/extraction. The identification of these areas and appropriate provisions will be included in LPS No. 2.*

Strategy	***Implementation***
Identify strategic minerals and basic raw materials as provided in the GBRS policy.	*To be incorporated into Scheme maps in LPS No. 2.* *Provisions reflecting the GBRS policy to be included in LPS No. 2*

33. The identification of these areas for BRM are further reinforced under a separate section entitled Basic Raw Materials on Page 44 of the Strategy.

*Shire of Harvey District Planning Scheme No. 1 (**Scheme**)*

34. The Scheme provides the following relevant objectives for this matter under Clause 1.6.1 (c):

- *To promote economic development and tourism within the Shire and increase local employment opportunities;*
- *To protect and preserve the more important natural flora and fauna habitats (ecosystem, biodiversity and essential ecological processes), and other environmentally sensitive areas that are prone to degradation on the principle that the extent and manner of use of these areas should be kept within their capabilities of being sustained without degradation in the long term.*

35. More specifically as the land is contained within the Kemerton Industry Buffer zone it is subject to Clause 4.8 relating to development within the Kemerton Strategic Industrial Area in the following terms:

> *4.8 DEVELOPMENT WITHIN THE KEMERTON STRATEGIC INDUSTRIAL AREA*
> *AMD 114 GG 04/07/17*
>
> *4.8.1 The Kemerton Strategic Industrial Area is made up of the land zoned Kemerton Strategic Industry, Kemerton Ancillary Industry, and Kemerton Industry Buffer. The objectives of the Kemerton Strategic Industrial Area are to:*
>
> *(a) accommodate resource processing industries and associated supporting activity in order to fulfill its designated role as a strategic industrial area for the South West region; Shire of Harvey LPS 1 Page No. 17;*
>
> *(b) provide industrial development areas that:*

i. *are identified for subdivision and Strategic and Ancillary development;*

ii. *are sufficiently flexible to accommodate the varying needs of future proposals including the need for flexible servicing arrangements for industry within the Kemerton Strategic Industry zone;*

iii. *achieve beneficial economic, environmental and community outcomes;*

iv. *encourage synergic interactions between business activities consistent with the principles of industrial ecology;*

v. *are protected from the encroachment of incompatible uses;*

vi. *respect visual management considerations;*

vii. *enable environmental protection and management arrangements that minimise impact on the natural environment; and*

viii. *respect Sites of Aboriginal heritage significance.*

4.8.2 When considering development applications with respect to land wholly or partly within the Kemerton Strategic Industry zone or the Kemerton Industry Buffer zone, the Local Government shall refer the proposal to the relevant State Government Agencies for comment to ensure the proposal does not conflict with the strategic intentions for industry and infrastructure development in the zone.

4.8.3 When considering development applications with respect to land wholly or partly within the Kemerton Industry Buffer zone, applicants are required to satisfy the provisions of Part 5 – Division 3 – Kemerton Industrial Zone Buffer Area and Part 7 – Applications for Planning Approval of the Greater Bunbury Region Scheme.

36. As the land is included in the Kemerton Strategic and Industrial Area it is subject to the provisions of Clause 6.3 which requires the preparation of the Structure Plan in the following terms:

6.3 KEMERTON STRATEGIC INDUSTRIAL AREA AMD 114 GG 04/07/17

(a) In addition to such other provisions of the Scheme as may affect it, land included within the Kemerton Strategic Industry zone, Kemerton Industry Buffer zone and Kemerton Ancillary Industry zone is identified as an area requiring a Structure Plan to be prepared prior to any future subdivision or development.

37. As identified under the State Planning Framework the Structure Plan has been considered which identifies the land within the Kemerton Industry buffer zone which is principally designed to ensure that development does not interfere with the uses contained within the Kemerton Industry Core. The proposed use of the land for Extractive Industry is consistent with the purposes under the Kemerton Industry Buffer zone and is listed as a permissible use for the purpose of that zone.

38. Under the Kemerton Industry Buffer zone it provides the following Policy Statement.

> *The primary purpose of this zone is to serve as a low intensity use area between the Kemerton Strategic Industry and Ancillary Industrial zone and the surrounding land uses. No further residential or incompatible development shall take place in this zone and where possible public recreation and flora and fauna conservation shall be encouraged.*

39. It is notable that with respect to recreation and flora and fauna conservation within the buffer, the State through the acquisition of land associated with acquiring development rights from private landowners, have now acquired extensive land holdings. These are identified in Figure 3 of the KSIA in **Annexure SGA18 (p29)**. Figure 3 identifies landownership, including ownership differences between State Government Departments. It is notable that one of the most significant landowners within the buffer is the Department of Parks and Wildlife (**DPAW**), whose land interests are shown in dark green. It is therefore apparent that recreation/ flora and fauna conservation has already been given significant attention in the buffer through direct State ownership where the State has considered it appropriate through direct landowner engagement and acquisition.

40. Within the zone, Extractive Industry is listed as an SA use which is a permissible use in the Shire of Harvey subject to the Exercise of Discretion by the Responsible Local Authority following consultation.

41. It is also noted that the Subject Land is contained within Precinct 8 – Runnymede pursuant to Clause 10.4 of the Scheme. However, in view of the fact that the reference in that Policy refers to General Farming zoned land, it is considered to have little relevance to the consideration of this matter under review. Consideration of the Application having regard to the Respondent's Planning Framework is considered further in this Witness Statement.

PLANNING CONSIDERATIONS IN RESPECT TO THE STATE AND LOCAL PLANNING FRAMEWORK AND ENVIRONMENT

42. The recognition of the suitability of the Site for the extraction of raw materials is clearly expressed in the Planning Framework that applies to the Site.

43. The Reasons for Refusal issued by the Shire relate exclusively to environmental issues associated with the clearing of vegetation.

44. As depicted in **Annexure SGA5 and SGA6**, it is not uncommon for SGS resources to be located on land that is well vegetated and clearing is an inevitable consequence in the extraction of basic raw materials on many sites. The consideration from a planning perspective is whether the proposal is being undertaken in an environmentally acceptable manner.

45. It is the case that all clearing proposals will require approval from the relevant Environmental Approval Authorities in this case being the Department of Water and Environmental Regulation (**DWER**) and the Department of Environment (**DAWE**). Development cannot proceed without the requisite approvals from those authorities and Applications have been submitted to address the specific criteria with respect to the clearing of vegetation.

46. In my experience, it is those environmental authorities who are the pre-eminent authorities dealing with the specific consideration of environmental matters.

47. Under SPP2.4 reference is made specifically to environmental considerations in three areas:

- Section 4.1 – BRM Mapping – Exclusion Areas.

  Exclusion Areas are proposed sites excluded from BRM extraction due to environmental values, resource conflicts or for land use planning reasons. Exclusion Areas identified on GeoView WA Mapping. There are no Exclusion Areas that are identified that apply to the Site;

- Section 5 – Objectives.

Objectives (e) which seeks the extraction of BRM that avoids, minimises or mitigates any adverse impacts on the community (e.g. dust and noise), water resources (e.g. pollution control) and biodiversity values (e.g. flora and vegetation); and

Section 6.5 – Development Approvals and Management Plans.

(c) Identification of the environmental values and those requiring protection.

48. In respect to Sections 5 and 6.5 of SPP2.4 the assessment undertaken by Mr Lundstrom has considered those aspects in the Application Report for the Planning Approval and EIL. They are also separately considered as part of the requirement to obtain approvals through the respective State and Federal Environmental Authorities.

49. Within the Planning Application these documents have included:

- The Development Application and EIL (September 2021);
- Clearing Permit Amendment CPS8916/2;
- Referral under the EPBC Act (May 2022) comprising:
    - EBBC referral document;
    - Revised flora survey;
    - Fauna survey;
    - Aboriginal survey;
    - Environmental Management Plan.

50. Specifically with respect to the Development Application and EIL it has considered the following specific environmental attributes along with the preparation of various Managements Plans including:

Assessment Considerations

- Topography, drainage and wetlands;
- Ground water hydrology;
- Vegetation;
- Flora and fauna;
- Environmentally sensitive areas;

- Acid sulphate soils;
- Noise;
- Dust;
- Dieback;
- Aboriginal heritage;
- Weeds.
- Bushfire.

51. To support these assessments the Application also comprises the following Management Plans:

    Management Plans

    - Pit Rehabilitation and Maintenance Management Plan;
    - Weed Management Plan;
    - Water Management Plan (comprising Hydrocarbon Spill Management Plan);
    - Dust Management Plan;
    - Dieback Management Plan.

52. Separately as part of the engagement with DWER and DAWE, the proposal has also considered the potential for other management and offset measures to mitigate against the impacts associated with the clearing of vegetation.

53. For the purpose of those considerations both under SPP2.4, as well as those attributes under Clause 67 (2), I consider the Application has properly addressed those environmental attributes for the purpose of obtaining planning approval, noting that separate environmental approvals are still required to be obtained before development can proceed.

54. In refusing the Application I have not seen any material provided by the Shire that has provided any substantive evidence that supports that the environmental attributes associated with the proposal are unacceptable.

55. Further consideration in relation to Clause 67 (2) is outlined further in the following section.

CONSIDERATION AGAINST CLAUSE 67 - PLANNING AND DEVELOPMENT ACT (LOCAL PLANNING SCHEME) REGULATIONS 2015

56. The following table is prepared to summarise the consideration of the proposal having regard to Clause 67(2). Some of the contents repeat what is in this Statement, but they are listed below for context in respect to each of the relevant matters. These should be read in conjunction with the response to the Planning Framework stated above.

Table 3 – Clause 67 Considerations Summary

	Matters to be Considered	**Comment**
a)	*The aims and provisions of this Scheme and any other Local Planning Scheme operating within the Scheme area;*	The proposed extractive industry is consistent with Council Scheme Objectives to promote economic development within the Shire and increase local employment opportunities (Clause 1.6 (c)). It will also have significant economic benefit thought its primary function to supply sand to the BORR, which itself results in significant economic benefits and efficiencies for future development in the region. It will be undertaken in a way that does not affect the most important flora and fauna natural habitats and other environmentally sensitive areas (Clause 1.6 (g)) through the detailed Environmental Assessment undertaken by Mr Lundstrom which will be separately considered through the separate requirement for environmental approvals by DWER. Extractive Industries are a permissible use in the Kemerton Industrial Buffer zone and Council have granted approval to Extractive Industries over the Review Site in recent times and on adjoining property to the north and south. The proposed Extractive Industry provides a logical extension on the Site and will do so in a manner that will not have any deleterious, undue or adverse effect on the landscape character of the area through retention of the existing buffer screen which has been retained along Runnymede Road.
b)	*The requirements of orderly and proper planning including any proposed Local Planning Scheme or Amendment to this Scheme that has been advertised under the Planning and Development (Local Planning Schemes) Regulations 2015 or any other proposed planning instrument that the Local Government is seriously considering adopting or approving;*	The Extractive Industry use is a suitable use on the land as evidenced by previous approvals issued. The issue concerning the removal of vegetation has been considered in the environmental assessment by Mr Lundstrom and will be subject to separate environmental approval by DWER. On that basis, the proposed development is considered to be acceptable, and will allow to continue extraction operations to facilitate the

		sustainable use and development of the land as anticipated under SPP1, the GBS and the GBRS BRM Policy and SPP2.4. Particularly, it will be utilised for the purpose of facilitating important regional development works under the BORR. The Shire is in the process of developing its new TPS2. However, the Draft Scheme is not yet seriously entertained and has not yet been advertised. However, the Shire's Local Planning Strategy has been advertised and adopted by the WAPC and for the reasons expressed in this Statement the proposal is consistent with the provisions outlined under the Strategy.
c)	*Any approved State Planning Policy;*	Responses to the SPP's are provided within this Witness Statement where relevant. In general terms, subject to the environmental acceptability of the use, the proposal to extract sand from the Review Site is a capable and appropriate use and is anticipated as part of the GBRS BRM Policy. To the extent that all Extractive Industries must conduct operations in an environmentally acceptable way, this has been considered through the Applicant's environmental investigations which will be independently assessed by the DWER and DAWE. This will also facilitate the sustainable use and development of the land consistent with SPP1 and in meeting the growth anticipated in the Greater Bunbury Region under the GBS, Bunbury Geographe Sub-Regional Strategy and facilitate the extraction of the resource to accommodate sand supply for the regionally significant BORR project.
d)	*Any Environmental Protection Policy approved under the Environmental Protection Act 1986 section 31(d)y;*	Environmental matters relating to clearing and retention of vegetation have been addressed elsewhere within this statement and in the evidence of Mr Lundstrom for the Applicant. DWER will assess the proposed independently to affirm the proposed works are environmentally acceptable prior to development taking place.
e)	*Any Policy of the Commission;*	The WAPC has adopted The Greater Bunbury Strategy 2013 (**GBS**) which provides a strategic overview for Greater Bunbury across relevant land use planning considerations. The GBS anticipates growth from 83,000 people (2011) to 150,000 people within the Greater Bunbury Region. This will require access to a significant quantity of well-located and accessible basic raw materials, including Limestone. The GBS identified the need for the preparation of an equivalent basic raw materials Policy for the

		GBRS area which is now completed through the GBRS BRM Policy and the recent adoption of SPP2.4 to cover the entirety of the state in which the area subject of this review is fully identified within an SGS identified area. In any event, the GBS emphasises the need to: • Protect and safeguard the potential of productive natural resources (P11). The GBS has been updated under the Bunbury Geographe Sub-Regional Strategy which anticipates an aspirational growth of up to 200,000 people over the next 20-30 years. When read in conjunction with the GBRS BRM Policy 2018 this identifies: • The principal purpose of the Policy is to ensure the long-term security for the access for minerals and basic raw materials through appropriate land use, planning and development control (page 3). • Includes the Review Site as part of a significant geological supply area (page 7). • Requires Local Governments to have due regard to this Policy when preparing Local Planning Scheme's and Amendments and when assessing Development Applications (P4). The GBRS BRM Policy has now been given formal effect through the adoption of SPP2.4 as a state wide Policy under which the protections available under the SPP are provided for land identified with Significant Geological Supplies (**SGS**).
m)	*The compatibility of the development with its setting including:* *i. The compatibility of the development with the desired future character of its setting; and* *ii. The relationship of the development to development on adjoining land or on other land in the locality including, but not limited to, the likely effect of the height, bulk, scale, orientation and appearance of the development;*	The Review Site is located on land which is used for Extractive Industry. There are no dwellings within 500m of the area subject to extraction. The closest dwelling has been acquired by the WA Land Authority as it is contained within the Kemerton Buffer zone. The area is characterised with Extractive Industry Operations. The Site is separated from the Forrest Highway by approximately 2km. The use of the area for basic raw materials extraction is consistent with the SGS designation and likely to continue for Extractive Industry use for the foreseeable future until such time as the resource is extracted and the area repurposed in the long term. The development has been prepared with appropriate consideration to ameliorate dust, noise, traffic and rehabilitation through the

		details provided in the Application, as well as the environmental attributes that apply to the land which have been considered in the Environmental Assessments by Mike Lundstrom and will be subject to separate approval by DWER and DAWE.
n)	*The amenity of the locality including the following:* *i. Environmental impacts of the development;* *ii. The character of the locality;* *iii. Social impacts of the development;*	The Site is visually separated from surrounding road systems through an effective screen located along the edge of Runnymede Road. The amenity of the area is characterised with activities associated with Rural and Extractive Industry uses and the Kemerton Buffer zone does not permit sensitive uses or dwellings to be permitted. With respect to environmental impacts, noise, dust and rehabilitation have been addressed by the Applicant. The proposed continuation for the extraction of sand from the Site will not adversely affect the character of the locality and is anticipated through its designation under the GBRS BRM Policy (SPP2.4) as an SGS. Given the depth of the sand resource on the site itself, it also has efficiencies associated with a large volume of sand on relatively small geographical footprint. This enables a significant amount of sand to be extracted from this site with comparatively less clearing per volume of sand than other sites with shallower sand profiles. The development allows for the continued sustainable use and development of the land and encourages economic development through the supply of sand resource materials and the associated direct and indirect employment that arises in respect to the extraction of such resources. Specifically, these resources have been earmarked to supply the BORR. Access to sand supplies generally is also essential and in addition to meeting the specific requirements of the BORR, the maintenance and availability of sand resources is essential to the overall development for the Greater Bunbury Region, including areas that are earmarked for future Urban Development which comprises significant planned population growth to 200,000 people in the Bunbury Geographe Region over the next 20 to 30 years.
o)	*The likely effects of the development on the natural environment or water resources and any means that are proposed to protect or to mitigate impacts on the natural environment or water resource;*	Consideration of the effects of the proposal on the natural environment have been central to the application process. Lot 7 as it applies to the area under Application has been considered in the Environmental Assessment by Mr Lundstrom. This includes consideration of flora and fauna, TEC and federally protected species.

		The environmental assessments undertaken by the Applicant will be considered independently by the DWER and DAWE as a pre-requisite to approval taking place. The Applicant as part of the proposal includes an obligation for the rehabilitation of the land, post extraction, including the replanting of species, local to the area, as a means to mitigate the impacts overall on the natural environment, along with potential consideration of offset proposals that may form part of the measures to be considered in the measures to be considered as part of the environmental process.
p)	*Whether adequate provision has been made for the landscaping of the land to which the application relates and whether any trees or other vegetation on the land should be preserved;*	The Subject Site already contains existing screening vegetation along its western boundary and requires rehabilitation as part of the previous sand extraction. The current proposal involves rehabilitation of the extraction areas once the resource is removed in a staged manner.
q)	*The suitability of the land for the development taking into account the possible risk of flooding, tidal inundation, subsidence, landslip, bushfire, soil erosion, land degradation or any other risk;*	The use has been considered acceptable for the purpose of undertaking the Extractive Industry use, having regard to the requirements associated with risk.
r)	*The suitability of the land for the development taking into account the possible risk to human health or safety;*	Not Applicable
s)	*The adequacy of:* *i. The proposed means of access and egress from the Site; and ;* *ii. Arrangements for the loading, unloading, manoeuvring and parking of vehicles;*	The proposed extraction will utilise the existing approved access to the Site from Runnymede Road. The proposal does not seek any intensification of traffic beyond that already approved, which allows sand to be extracted in a staged manner along with already approved stages.
t)	*The amount of traffic likely to be generated by the development particularly in relation to the capacity of the road system in the locality and the probable effects on traffic flow and safety;*	The proposal maintains access to the Greater Bunbury Regional Road Systems via Runnymede Road to Forrest Highway which comprises Rural and Non-Residential activities. The level of traffic is not proposed to increase as a result of the continuation of the sand extraction beyond that for which it has already been approved and operating.
u)	*The availability and adequacy for the development of the following:* *i. Public transport services;* *ii. Public utility services;*	Not Applicable

	iii. Storage management and collection of waste; *iv. Access for pedestrians and cyclists (including end of trip storage, toilet and shower facilities);* *v. Access by older people and people with disabilities;*	
v)	*The potential loss of any community service or benefit resulting from the development other than potential loss that may result from economic competition between new and existing businesses;*	The proposal to continue extraction of sand provides a community benefit that assists in the development of the BORR and the associated benefit that it brings. It also avoids sand resources being diverted from other locations to accommodate the planned significant growth of Greater Bunbury to 150,000 people and Bunbury Geographe to 200,000 people, in an efficient and sustainable manner consistent with its SGS designation.
w)	*The history of the Site where the development is to be located;*	The Site has historically been approved for extractive industry use as have adjoining and nearby properties.
x)	*The impact of the development on the community as a whole notwithstanding the impact of the development on particular individuals;*	The significance of the sand resource is well recognised as part of SPP 2.4 and previously approved by the Council. The continuation of the extraction of sand will provide an important supply of this resource for the BORR. Maintenance of sand resources will also be beneficial for the ongoing development of the Greater Bunbury Region. Maintenance of this supply will prevent the diversion of other sand supplies for the BORR that would otherwise be made available for general development in the Greater Bunbury Region.
y)	*Any submissions received on the Application;*	I am not aware of any objecting submissions.
za)	*The comments or submissions received from any authority consulted under Clause 66;*	I am not aware of any objecting submissions.
Zb)	*Any other planning considerations the Local Government considers appropriate.*	None have been identified at this time.

CONCLUSION

57. The following conclusions are drawn with the respect to the proposal.

a) The use of the Site for Extractive Industry is suitable;

b) The removal of vegetation has been assessed by Mr Lundstrom who has considered:

- Flora and fauna;
- Threatened species;
- Federally protected species.

and has determined these aspects are capable of being managed through environmental proposals included as part of the Application. These will be independently considered by DWER and DAWE to determine their environmental suitability prior to development being able to take place.

c) The extraction will allow access to those SGS sand resources under the GBRS BRM Policy under SPP2.4.

d) The sand resource is needed to accommodate the construction of the BORR, without which there is a predicted shortfall in sand supply based up known approved sand extraction. This does not account for the additional supply needed for the ongoing growth of the Greater Bunbury and Bunbury Geographe Regions which will require their own supply of sand resources.

e) Accessing the resources will enable the sustainable use and development of land through the important and continued supply of sand in an efficient manner in the Greater Bunbury Region which is planned for significant growth to 200,000 people under the recent Bunbury Sub-Regional Strategy over the next 20 to 30 years.



Stephen Geoffrey Allerding

Date: 18 July 2022

State Administrative Tribunal

Planning and Development Act 2005

Matter No. DR 63 of 2022

IN THE MATTER OF

Catalano Pty Ltd Applicant

and

The Shire of Harvey Respondent

STATEMENT OF STEPHEN GEOFFREY ALLERDING -
ANNEXURE DOCUMENTS - INDEX

Date of Document	18 July 2022
Date of Filing	18 July 2022
Prepared for:	B&J Catalano Pty Ltd
Prepared by:	
Steve Allerding	Ph: 9382 3000
Allerding and Associates	
125 Hamersley Road	Email: reception@allerdingassoc.com
SUBIACO WA 6008	Ref: CAT RUN GE

ANNEXURE SGA1 - Stephen Geoffrey Allerding – Curriculum Vitae
ANNEXURE SGA2 – Report and supporting information submitted with the application, prepared by Lundstrom Environmental Pty Ltd, dated September 2021
ANNEXURE SGA3 – Refusal Notice dated 15 February 2022, including stamped plans
ANNEXURE SGA4 – BORR Plan and Details
ANNEXURE SGA5 – Locality, Site & Aerial Plans
ANNEXURE SGS6 – SGS Resource Overlaid on aerial photograph of the locality
ANNEXURE SGA7 – Zoning Plans
ANNEXURE SGA8 – GBRS Text
ANNEXURE SGA9 – Greater Bunbury Strategy
ANNEXURE SGA10 – Bunbury Geographe Sub-Regional Strategy
ANNEXURE SGA11 – SPP2.4 Basic Raw Materials
ANNEXURE SGA12 – Shire of Harvey's TPS 1
ANNEXURE SGA13 – Shire of Harvey Local Planning Strategy
ANNEXURE SGA14 – SPP1.0 State Planning Framework
ANNEXURE SGA15 – SPP2.0 Environmental and Natural Resources Policy
ANNEXURE SGA16 – SPP2.5 Rural Planning Policy
ANNEXURE SGA17 – GBRS Strategic Minerals and Basic Raw Materials Reserve Policy
ANNEXURE SGA 18 – Harvey Kemerton Industrial Area Structure Plan

Annexure SGA1

Stephen Allerding – Curriculum Vitae

STEPHEN ALLERDING - Director

QUALIFICATIONS: Bachelor of Arts (Geography & Economics), University of Western Australia (1989).
Postgraduate Diploma in Urban and Regional Planning, Curtin University (1995).

PROFESSIONAL EXPERIENCE:

July 2006 to Present: ***Director - ALLERDING & ASSOCIATES***

Residential and Urban Design Projects

- Velocity Apartments – Preparation of Development Application's for the approval of 10 storey mixed use apartments on Pattie Street in the Canning City centre.
- Momentum Apartments – Preparation of Planning Application's for the approval to 10 storey mixed use apartments in Cecil Avenue in the Canning City centre.
- Korel Gardens, Swanbourne – Preparation of sub-division applications for the development of additional dwellings in Korel Gardens, Swanbourne.
- Fix Pty Ltd – Apartment/group developments – Preparation of Planning Application's/advice for multi-unit and grouped housing development in Gosnells, Armadale and Kelmscott.
- Regents Gardens Nursing Home – Preparation of Applications/advice for approval to Nursing Home Developments in Scarborough, Kelmscott and Joondalup.
- Charles Hotel – Rezoning and design concepts for the redevelopment of the Charles Hotel site for mixed used commercial and residential development.
- High Wycombe Local Structure Plan – Preparation of local structure plan for residential redevelopment of nursery adjacent to Perth Airport in High Wycombe.
- Swanbourne Multi-Storey Development -. Development application for multi-storey group development of the former Swanbourne Primary School site.
- Preparation of special residential subdivision for multiple landowners as part of the east Wanneroo Land Use Planning Strategy DRL GNA – Golfview Place and Badgerup Road, Gnangara.
- Fremantle Ports – Preparation of Precinct Plans for mixed use development as part of the Fremantle Ports Authority landholdings.
- Apartment Complex Claremont – Multi-storey apartment complex rezoning proposal for Graylands Road adjacent to the Claremont football oval redevelopment site.
- Helena Valley Lifestyle Village Extension – Preparation of 141 Lot extension to the Helena Valley Lifestyle Village
- Broadwater Busselton – Preparation of rezoning proposal for the redevelopment and conversion of units within the Broadwater bungalows resort in Busselton.
- Baldivis Structure Plan – Preparation of 200 lot residential Structure Plan in growth area of Baldivis.
- Meelon Subdivision – Preparation of rural residential subdivision within the Shire of Murray.
- Metro Hotel redevelopment – Development application for the redevelopment and refurbishment of the Metro Hotel site in Kensington, South Perth.
- Scarborough Residential care facility for the elderly – Rezoning and development application for multi-storey high and low care aged facility in Scarborough.
- Morley Apartments Development application for apartment units adjacent to the Morley City Shopping Centre.
- Subdivision Woodbridge – Preparation of subdivision application for residential subdivision within the city of Bassendean
- Southern River Structure Plan – Preparation of structure plan and design layout for prospective residential subdivision in Southern River in the Armadale Redevelopment Authority.
- Hilbert subdivision – Preparation and lodgement of subdivision applications for residential development within Hilbert within the Armadale Redevelopment Authority.
- Lenore Road rezoning and subdivision - Preparation of amendments to zoning and structure plan for R30 small lot residential subdivision in the City of Wanneroo.

- Helena Valley Lifestyle Village – Rezoning and development application for a residential lifestyle village for 400 plus dwellings within the Shire of Mundaring.
- Swanbourne Primary School residential development – Co-ordinate planning approvals for the redevelopment of land within the former primary school site for survey strata residential dwellings.
- Ormsby Terrace Apartments – Preparation of development applications for approvals to multi-storey apartments on the Mandurah estuary.
- El Caballo Rural Living estate – Preparation of amendments, structure and subdivision plans for the development of a rural living estate in the Shire of Serpentine-Jarrahdale.
- Gosnells Hotel and market site redevelopment – Preparation of structure plans/development plans for the proposed comprehensive redevelopment of the site encompassing the Gosnells Hotel and Gosnells Railway Markets for mixed use commercial, residential apartments and retail facilities in the Gosnells City Centre.
- Yakamia Estate – Preparation of structure plan and Scheme provisions for 3000 lot residential estate in Albany.
- Horrocks Beach Estate - a 1000 lot structure plan, commercial and tourist proposal in the Shire of Northampton
- Glenfield Beach and Drummond Cove – Structure plan and rezoning proposals for coastal residential developments within Greater Geraldton Area
- High Wycombe and Busselton, Albany, Rockingham, Wanneroo and Helena Valley – Planning and advocacy tasks associated with the rezoning and development of Residential Lifestyle Villages comprising 200+ dwelling units for Aged 45+ residential in Kalamunda and Busselton.
- Point Fraser – Preparation of excision report for the removal of land from A Class Reservation to accommodate riverine community and commercial development on central Perth Foreshore at Eastern gateway of Perth CBD.
- Nedlands Residential/ Council Development Design Guidelines – Preparation of Residential and Commercial Design/Development Guidelines for various commercial and residential precincts within the City of Nedlands.
- Residential and Rural Residential Subdivision/Development – Numerous subdivision and rezoning proposals for development and subdivision projects throughout the Perth Metropolitan Region and regional Western Australia.
- Northam Townsite Development Plan – Preparation of development plan for prospective redevelopment within the Northam Town Centre.
- South Perth Residential Design Guidelines – Preparation of detailed design guidelines for multi-storey mixed use development within the South Perth locality.

Commercial/Education

- Bentley Plaza Shopping Centre – Preparation of Applications for development including Medical Centre and strategic planning advice.
- Fadeck Cultural Centre – Preparation of Statements for the approval to the Community Centre for the Fadeck Cultural Society.
- IGA Byford – Preparation of Applications and advice for the expansion of the IGA premises in Byford.
- Catholic Education Office – Preparation of planning advice for the extension of CEO facilities in the Town of Cambridge.
- Notre Dame – Preparation of Application for the development of UNDA's new building to accommodate the Schools of Nursing, Arts and Science in High Street Fremantle.
- Drovers Place Centre – Provision of planning advice and statements for the expansion of Drovers Place Centre in Joondalup Drive and Wanneroo Road.
- Coates Hire Facilities – Preparation of Applications and planning advice for approvals to premises in Belmont and Swan.

- Griffin Group Commercial Developments – Preparation of Applications/advice for the development of various shopping and commercial premises in Banks Avenue, Hillarys, Hamilton Hill, Tuart Hill, Wanneroo, Joondalup on behalf of the Griffin Group.
- Little Sisters of the Poor – Preparation of Development Application for the redevelopment of the LSOP Nursing Home and Managed Care Facilities in Glendalough.
- Zambrero's – Preparation of approval for gymnasium and fast food premises as part of the existing shopping centre facilities in Dalyellup.
- Lobster Shack – Preparation of Development Application's, sub-division and rezoning for the development of the Lobster Shack in Cervantes.
- Kidogo Art Institute – Assist with Development Proposals for the expansion of the Kidogo Art Institute in Bathers Beach, Fremantle.
- Twickenham Street Motor Vehicle Sales Premises – Preparation of Scheme Amendment for Motor Vehicle Sales premises in Burswood.
- Charles Hotel – Rezoning and design concepts for the redevelopment of the Charles Hotel site for mixed used commercial and residential development.
- Burswood Showroom and Commercial Development - Preparation of various land development, land assembly and development proposals for Burswood Honda, Autoclassic and the Opel showroom facility along Great Eastern Highway, Victoria Park.
- Medical Centre, Ascot -Preparation of development application for Futuris Medical Centre in Ascot
- Gilbert's Fresh – Preparation of planning approval for Gilbert's Fresh distribution facility outlet in Greenlands Road, Mandurah.
- Mews Road Fremantle Preparation of various design and development options for the redevelopment of land within the Mews Road service Industrial Complex.
- Hamilton Hill Shopping Centre – Preparation of rezoning and development proposals for the redevelopment and expansion of the shopping centre.
- KFC Gosnells– Preparation of development proposal for the establishment of a fast food outlet in the City of Gosnells.
- Sonic HealthPlus Medical Facilities – Preparation of development applications for Sonic HealthPlus medical facilities in Port Hedland and Bunbury.
- Crust Pizza – Preparation of planning application for the approval of Crust Pizza outlet in Bayview Terrace, Claremont.
- Metro Hotel redevelopment - Development application for the redevelopment and refurbishment of the Metro Hotel site in Kensington, South Perth.
- Officeworks, Cannington – Preparation of development application for the development of an Officeworks outlet in Cannington.
- Myer Shircore Cecil Avenue – Office and Medical Centre in Cecil Avenue, Cannington adjacent to Cannington shopping centre.
- Planning permission – Slip Road. Preparation of planning concepts and design for the redevelopment and access to existing commercial centre along Mandurah Road commercial strip
- Skydiving centre, Jurien Bay – Preparation of rezoning and development proposals for the establishment of a skydiving facility in Jurien Bay.
- Perth International Telecommunications Centre – Preparation of planning applications and strategic planning for the ongoing development of the PITC in Gnangara
- Scarborough Beach Road office development – Preparation of planning proposals associated with office development in Scarborough.
- Inmarsat Galileo 03B Teleport – Preparation of planning application for the establishment of antenna infrastructure at the PITC.
- Wembley Downs Shopping Centre – Planning approvals for the comprehensive redevelopment of the Wembley Downs Shopping Centre.
- Midland Super GP Clinic – Planning, co-ordination for development within heritage listed railway workshops in the Midland Redevelopment Authority area to accommodate Super GP Clinic.
- Southern River Shopping Centre – Planning approvals/Structure Plan/Scheme Amendments relating to increased floor space and development of the Southern River Commercial Centre.

- Eric Street Shopping Centre - Pursuit of approvals and negotiation of conditions in relation to the redevelopment of the Eric Street Shopping Centre in Cottesloe.
- Forrestdale Warehouse - Planning Approvals for the conversion of poultry farm facility into commercial showroom/warehouse development.
- Floreat Child Care Centre - Co-ordination of planning application material for approval to child care facility.
- Subiaco Child Care Centre - Approvals for 100 plus child care facility in City of Subiaco (former Waldecks Nursery).
- Parry Street Mixed Use Development – Rezoning and planning approvals relating to the redevelopment of the Queen's Square site for mixed use commercial development.
- Presbyterian Ladies College (PLC) - Assist the College in respect of changes to its Masterplan and advocacy tasks associated with Scheme changes to Shire of Peppermint Grove's TPS review.
- St Stephen's, Duncraig – Rezoning to accommodate expansion of secondary school in Duncraig.
- Primewest – Numerous commercial centre showroom and retail approvals throughout Perth and Regional western Australia including for Officeworks, JB HiFi, Bose, Toyworld, Red Dot, BCF and Howard's Storage World.
- Cannington Office Redevelopment - Pursuit of planning approval for multi-storey office development opposite Carousel and the City of Canning
- Lulu Child Care – Responsibility for securing approvals for national child care centre chain throughout Perth and regional western Australia Mangles Bay Railway Act redevelopment and subdivision proposals
- Midland Military Markets – Involvement in the pursuit of planning approval for the redevelopment of the site for showroom/commercial development.
- Metro Hotel Redevelopment, South Perth - Planning approvals received for the conversion and redevelopment of the Metro Hotel.
- Autoclassic BMW, Wangara - Planning approval and negotiation of conditions in relation to new showroom facility in the City of Wanneroo.
- Regent's Gardens Residential Care Facility – Rezoning approvals for conversion of land to accommodate multi-storey residential care facility in Scarborough.
- Ripcurl, Fremantle - Signage approval for heritage buildings within the Fremantle CBD.
- Mount Lawley Consulting Rooms - Planning approvals for psychology clinic in the City of Vincent.
- Shop/Restaurant Conversion, Subiaco - Planning approvals for shop conversion adjacent to SRA redevelopment area and Subiaco Rail Station.
- Office Conversion – Development approvals for office development in Rokeby Road Subiaco.

Industrial and Infrastructure Projects

- Coates Hire Premises – Preparation of Applications and planning advice for approval to Hire Facilities in Belmont and Swan.
- Hanson Concrete Batching Plants and Quarry Proposals – Applications for approval to Batching Plants/Quarry Developments in East Perth, Red Hill, Wanneroo, Rockingham, Serpentine/Jarrahdale and Dampier on behalf of Hanson Australia Pty Ltd.
- NBN Albany – Provision of advice and statement for the approval to an NBN tower in Albany.
- Snowdale Poultry Facilities – Preparation of Application's/advice for poultry farm development in Carabooda, Beermullah and Bennett Springs.
- Atlas Court Industrial – Preparation of Application for approval for the expansion of the industrial facilities in Welshpool.
- Copper Recycling Facilities – Preparation of Application for approval to Copper Recycling Facilities in Welshpool.
- Bannister Road Industry – Preparation of Planning Approvals for various industrial/mixed use developments as part of the Coxon Group of Companies in Canning.
- Totally Workwear – Preparation of Application's and advice for Totally Workwear Premises in Welshpool and Cannington.
- Aurora Biofuels Facility - Planning and Development of a pilot biofuels facility in Karratha utilising the growing and harvesting of algae in order to extract biofuels.

- Neerabup Industrial Area – Preparation of subdivision proposals for Flynn Drive Industrial Estate.
- Coogee Chemicals Site Subdivision – Preparation of application for land assembly and easements associated with the Coogee Chemicals facility in Kwinana.
- GD Pork Piggery Application - Planning applications under the GBRS and Harvey TPS for the establishment of a piggery, and planning advice in respect of Piggeries in Murray and Katanning.
- Clayton Street Industrial Site – Preparation of rezoning and development proposals for industrial sites in Clayton Street in the Shire of Swan.
- Explosives Reserves Facility – Preparation of planning study for the relocation of the Baldivis Explosives Facility through comprehensive GIS assessment and subsequent preparation of region and local scheme amendments.
- Poultry Farm – Gingin. Preparation of planning proposal for poultry farm in the Shire of Gingin.
- SDOOL Development Application – Preparation of development application for the redevelopment of the SDOOL waste water facility outlet in Rockingham on behalf of the Water Corporation.
- The Karara Iron Ore Project - The $1.8 billion project included the development of the Karara mine, the processing plant and associated infrastructure. The Karara mine is located 225 km east of Geraldton in WA's Mid West Region. Undertook negotiations with the Shire Councils and prepared development applications for infrastructure works and guided through the approvals.
- Southern Seawater Desalination Plant, Binningup - The $955 million facility, which is to be the State's next major water source included a desalination plant, water pipelines, summit tanks and associated infrastructure. Oversaw negotiations with the WAPC and the Shire of Harvey for planning approvals and subdivision applications the Water Corporation desalination plant.
- Australian Marine Corporation, Henderson – Scheme amendments and subdivision approvals for major infrastructure including dock facilities, submarine lifting and transport and dockside engineering facilities.
- CUF North Transportables – Preparation of planning applications for the omnibus approval of transportable facilities in the marine installation in Henderson.
- Materials Recovery Facility – Canning. Planning approvals for the proposed redevelopment of the Materials Recovery Facility (MRF) as well as humidifier and laboratory developments as part of the broader SMRC waste recovery facility in Canning.
- BGC Concrete Facility, Lakes Road Industrial Area – Assisted in planning approval for permanent approval of concrete batching facility in the Shire of Murray.
- Redhill Quarry – Preparation of the Planning Applications for the expansion of the Redhill Quarry in the Shire of Swan.
- Latitude 32 – Assist with the preparation of draft policy provisions for development within the Latitude 32 area.
- Coogee Chemicals Subdivision – Preparation of application of the rationalisation and subdivision of the Coogee Chemicals site in Kwinana.
- Nameless Valley Drive, Tom Price - Rezoning and planning approval for the freight transport depot within the Tom Price townsite.
- Hanson Byford Quarry – Planning approvals relating to the extension of a key extraction area in the Shire of Serpentine- Jarrahdale.
- Margaret Rive Concrete Batching Plant – Planning approval for the Holcim Concrete Batching Plant in the Shire of Augusta, Margaret River.
- Swan Valley Poultry Farm – Planning approvals for the expansion and redevelopment of existing poultry farm facility in the Swan Valley Area.
- Flynn Drive Structure Plan – Preparation of design concepts for the prospective subdivision of land contained within the Flynn Drive Industrial Estate in the City of Wanneroo.
- Chevron Gorgon Industrial Site, Henderson – Subdivision and land development to accommodate industrial facilities for the offshore gas project.
- LandCorp Industrial land development, East Rockingham – Revisions to Improvement Plan 14 to accommodation a wider range of industrial uses and provide for sensitive environmental areas.
- Hanson and Cemex Concrete Batching Plants, East Perth – Coordinated negotiations with the Minister for planning, Local Government and the State Administrative Tribunal for the expansion of operations at the plants.

- Telstra Perth International Telecommunications Centre, Landsdale – Coordination of approvals on behalf of Telstra for the development of telecommunications infrastructure.
- East Rockingham Structure Plan and Subdivision.
- Improvement Plan 14 Heavy Industrial Area Structure Plan and detail design work, as well as advocacy.
- Australian Maritime Centre in Henderson.
- Jurien Aquaculture Facility – Coordination of land use planning associated with the establishment of a major aquaculture facility.
- Hi-Smelt Pig Iron Facility – Appeal and advocacy work associated with the staged approval to a major Pig Iron Smelter facility in Kwinana.
- Agriculture Department Research Facilities across Perth and the Regions.
- Dixon Road Industrial Commercial - Preparation of Design and subdivision concepts for the development of an industrial and showroom commercial development within Rockingham.
- Hanson's Concrete Batching Plants and extraction operations.
- Port Hedland Power generation facility conversion.
- Ready Mix Concrete Batching Plants.
- Sims Metal.

Agent Representation & Compensation

- Coordination of Appeals and/or attendance as Expert Witness/Agent at the State Administrative Tribunal, Supreme Court and arbitration hearings on behalf of Government and Private clients.
- Planning Analysis for various commercial and residential projects, due diligence, subdivision and rezoning for various mixed-use commercial/residential developments.
- Involved in the management of a wide range of new projects including rezoning, structure plans, subdivisions, statutory advice and due diligence, advocacy and attendance at SAT as expert witness and advocate.

Dec 2001 to Jun 2006: Director ALLERDING BURGESS

Residential and Urban Design Projects

- Residential and Rural Residential Subdivision/Development – Numerous subdivision and rezoning proposals for development and subdivision projects throughout the Perth Metropolitan Region and regional Western Australia.

Industrial and Major Infrastructure Projects

- Kemerton Power Generation Facility – Achieved rezoning and subdivision approvals for 1080MW power station facility in Greater Bunbury Region.
- Down Road Industrial Park – Coordination of land use planning and rezoning for the development of a regional industrial precinct in Albany.
- Perth Airport Alternate Airport Study – Joint assessment of alternate diversion airport landing facilities for aircraft en route to Perth in regional Western Australia.
- Cardup Shale Pit – Advocacy and planning associated with the ongoing development and management of the Cardup Shale pit in Serpentine.
- Startrack Freight Express – Approvals to development of freight distribution facility within Perth Airport – (Commonwealth Government).

Apr 2001 – Oct 2001: ***Partner MASTERPLAN CONSULTANTS (WA) Pty Ltd***

Responsible for a range of projects including structure planning, subdivision, strata subdivision/development, rezoning, appeals & advocacy. Examples of key projects include:

- Lakes Road Industrial Park Preparation of a structure plan for 1000ha industrial estate.
- Perth Airport Industrial Structure Plan Preparation of a structure plan for a 400ha industrial estate within Perth Airports Precinct 3.
- Amazon Soils Bio-solid and Greenwaste Recycling Facility. Establishment of criteria and mapping for the location of a recycling facility in the Perth Metropolitan Region.
- Two Rocks Structure Plan Preparation of rezoning and structure plan for medium density residential subdivision/development within Wanneroo.
- Appeals and Planning Analysis Appeals for various commercial and residential projects, due diligence, subdivision and rezoning for various mixed-use commercial/residential developments.

May 1995 to Apr 2001: ***Principal Policy Officer (Planning)February 2001 MINISTERS FOR PLANNING PARLIAMENT OF WESTERN AUSTRALIA Hon K.R. Lewis JP (to Jan 1997); Hon GD Kierath (to Feb 2001)***

- Responsible for policy development on issues relating to the Minister's planning responsibilities.
- Undertake and coordinate work on special projects at Ministerial direction.
- Assessment of alternative policy proposals recommended by the Public Sector Agencies and recommendation of appropriate action.
- Liaison with other Ministerial offices and agencies on questions of policy development.
- Participation in the Minister's legislative program's and preparation of Cabinet Minutes.
- Representing the Minister's office on interdepartmental committees and special task forces on policy issues or initiatives.
- Provision of guidance/advice to Minister on policy questions or statutory responsibilities requiring the exercise of judgement.
- Responding to external inquirers seeking advice on guidance on a range of policy questions.
- Preparation of reports, briefing notes, speech notes and draft replies to Parliamentary questions and Ministerial correspondence.
- Acting Appeals Convenor.

Nov 1993 to May 1995: ***Strategic Planner - CITY OF ARMADALE***

Responsible for the preparation, coordination and management of Council's forward planning projects and policies including:

- Preparation and implementation of guidelines for Armadale's urban expansion.
- Preparation of Policies for industrial, retail, residential and commercial development.
- Policy preparation to assist and qualify decisions for development control.
- Responsible major scheme amendments, development and subdivision proposals.
- Coordinate other forward planning studies, structure and strategy plans.
- Preparation of the Armadale Bike plan.

Apr 1993 to Nov 1993: ***Planning Officer- CITY OF ARMADALE***

- Responsible for scheme amendments, development applications and subdivisions;
- Provide advice on Council's schemes, policies and strategies; and
- Undertake and coordinate forward planning studies, structure and strategy plans.

Feb 1993 to Apr 1993: Planning Officer - North West Corridor DEPARTMENT for PLANNING AND INFRASTRUCTURE

- Statutory support - Administration of Metropolitan Region Town Planning Scheme Act and Town Planning and Development Act;
- Assessment of subdivision/rezoning applications; advice to general public on planning issues; preparation of reports to Statutory Procedures Committee and Ministerial advice; and
- Assessment of development applications under the Metropolitan Region Scheme; Assessment of structure plans; Involvement with general studies in the North-West Corridor.

March 1989 to Feb 1993: Planning Consultant - FEILMAN PLANNING CONSULTANTS PTY LTD

Principal projects:

- Maddington Quarry - Preparation of a PER report for development approval to extract hard rock from the Darling Scarp over 70 years, for Boral Resources (WA) Ltd;
- Clarkson Estate - Structure plan and detail design of a 1,500 lot residential estate incorporating a rapid transit rail station and medium density residential precinct;
- Clarkson Butler Pedestrian Bicycle Study - Strategic pedestrian/bikeplan in the North West Corridor providing guidelines for Commission policies in new residential estates; and,
- Halls Head Estate - Involvement with the structure planning and ongoing detail design of a 5,000 lot residential/tourist estate between the Peel Estuary and Mandurah coastline.

Transport Planning and Bicycle Studies:

- Great Northern Highway Alignment - GIS assessment to determine preferred route options for the alignment of the Great Northern Highway in conjunction with Main Roads Department;
- Preparation of a report on Public Transport Access Options in the North West Corridor;
- Involvement with preparing interface design between local distributors and residential lots. Assisted in design solution to DPUD policy of restricting access on 3000 VPD roads;
- Submission on Rail Alignment Corridor in the Clarkson Butler area involving analysis of rail alignment impacts on residential development in the Clarkson Butler area;
- Preparation of comprehensive Bicycle/Pedestrian reports for: Town of Kwinana; City of Rockingham; City of Cockburn; Joondalup City Centre; City of Kalgoorlie-Boulder;
- Rockingham Foreshore Bikeplan - recreation path and arts facilities along the Rockingham Foreshore and Point Peron; and,
- Bike Rail Dual Mode Study - preparation of route opportunities to access rail stations on the Perth - Armadale line.

Structure Planning and Subdivision Design:

- Bullsbrook Structure Plan - Preparation of Structure Plan involving analysis of constraints and opportunities for the future development of the Bullsbrook townsite;
- Ellenbrook Community Facility Study - Preparation of community facility requirements for 25,000 lots residential estate involving preparation of computer land use analysis model. Structure Planning proceeded on the basis of computer modelling to accommodate Urban Village concept;
- Thomson's Lake East - Detailed design of 300 residential allotments;
- Jandakot Industrial Park - Design of 80 allotments for light industrial/service, commercial purposes; and,
- Seascapes - Special development of 16 coastal lots and community open space in Halls Head including covenant design guidelines preparation.

Statutory:

- Town of East Fremantle - General Planning and Development advice including advice on design and development control; and,
- Shire of Moora - General planning and development advice including the preparation of scheme amendments, policy statements and design criteria.

PROFESSIONAL DEVELOPMENT:

Study Tours:

- Penang [Malaysia] 1988 Examination of land use opportunities and constraints for the Georgetown centre. Findings were presented to the Penang Development Corporation;
- Hat Yai [Thailand] 1988 Preparation of a preliminary report to the Prince of Songkhla University and Songkhla Province which researched and made recommendations on the formalisation of street trader activities in the City of Hat Yai, Thailand's second largest city after Bangkok;
- New Zealand (1996) Investigation of New Zealand's Resource Management Legislation relating to planning and environmental issues; Inspection of Exhibition and Convention facilities; Investigation into acquisition and management techniques for Regional Parks; Inspection of Waste Water Treatment facilities; and,
- London (1999) Examination of United Kingdom Legislative Programs relative to Western Australia's consolidation of Planning Legislation; Inspection of land developments relevant to Urban regeneration; Mixed Use and New Urban Developments; Affordable Housing; Review of Heritage Legislation and protection measures; Review of the United Kingdom's Planning Appeals Inspectorate; Review of Compensation procedures in the United Kingdom;
- Hawaii (2004) Examination of Aquaculture and Marine Based Commercial Activities for application of development proposals in Western Australia;
- Melbourne (2010) – Review of Mixed Commercial and Residential Living in CBD.

Key Committees: *Liveable Neighbourhoods Steering Committee*
Residential Design Codes Steering Committee (R-Codes Review)
Planning Legislation Consolidation (Advisory) Committee
UDIA Planning Committee

Referees: *Can be provided on request*

30 June 2019

Allerding & Associates

Annexure SGA2

Lot 7 Development Application
September 2021

B&J Catalano
South Western Highway
Brunswick Junction
W.A 6224
Ph: (08) 9726 8100
Fax (08) 9726 1575



EXTRACTIVE INDUSTRY LICENCE APPLICATION
&
ENVIRONMENTAL MANAGEMENT PLAN (EMP)

LOT 7 ON DIAGRAM 40591
RUNNYMEDE ROAD, WELLESLEY

September 2021

Extractive Industries Licence Application and Environmental Management Plan

LOT 7 RUNNYMEDE ROAD, WELLESLEY



REPORT PREPARED BY
LUNDSTROM ENVIRONMENTAL CONSULTANTS PTY LTD

Lot 7 on Diagram 40591
Runnymede Road, Wellesley
Shire of Harvey

Extractive Industries Licence Application and Environmental Management Plan

Version Reference: 0.1

Date: September 2021

Prepared by Lundstrom Environmental Consultants Pty Ltd for B&J Catalano Pty Ltd

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Version Register

Version No.	Description	Author	Reviewed by	Date
0.1	Final	B. Ekanaike	V. Pez	September 2021

Front cover image: *Nearmap Image of property December 2019*

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1 INTRODUCTION

The purpose of this report is to provide all the necessary information in support of an extractive industries licence (EIL) amendment application by the Proponent, B & J Catalano Pty Ltd. Information contained in this report is also aimed at fulfilling the requirements for Development Approval (DA). The DA application form is included with this report as Appendix 1.

This report describes the past operations and sets out the details of the proposed new sand mining on the property together with maps. It also provides an environmental assessment of the proposal and environmental management plans.

2 PROPERTY DESCRIPTION, OWNERSHIP AND LOCALITY

The property is situated approximately 2km to the east of Forrest Hwy, 23km north of Bunbury. A locality plan is included as Figure 1. The property description and ownership are summarised in Table 1.

Table 1. Property description

Property Description:	Lot 7 on Diagram 40591 Runnymede Road, Wellesley Shire of Harvey
Volume	1358
Folio	260
Area:	80.19 ha
Ownership	B, C & S Catalano

3 DESCRIPTION OF THE SITE AND ITS SURROUNDS

3.1 PRESENT LAND USE

The property is currently used for sand extraction. Lot 4 adjoining it to the south is also operated by B&J Catalano for sand extraction. Main Roads proposes to establish a sand quarry on Lot 21 adjoining the property to the north. Other properties surrounding the proposed operation are mainly used for grazing. Figure 2 illustrates the land use patterns of the immediate surrounds.

3.2 TOPOGRAPHY, DRAINAGE AND WETLANDS

Lot 7 has natural elevations ranging between approximately 12 and 52mAHD. There is an existing pit on the property with a proposed final, rehabilitated pit floor elevation of 9mAHD and batters of 1:6 (Figure 3). The new extraction area is located immediately to the east of the existing pit and slopes gently from 33mAHD in the east to 25mAHD in the west (Figure 3).

There are no defined drainage lines within the proposed extraction area as drainage occurs by infiltration into the porous sand surface. Runoff is unlikely to be generated by heavy winter rainfalls due to the porous nature of the surface and low slopes within the extraction area.

A dampland wetland (Myalup Swamp) is located to the west of property, approximately 670 metres from the proposed EIL area. The management category for most of this wetland is classified as Multiple Use but a small portion of the wetland, 1.78km from the proposed operations, is classified as Conservation. There is also a dampland Conservation wetland, approximately 1.2km to the east of the new EIL area (Landgate 2020).

No Conservation or ANCA or RAMSAR wetlands exist within 1,000 metres of the proposed extraction areas (Landgate 2020 and WALGA 2020).

The site does not fall within a RIWI Surface Water Proclamation Area (Landgate 2020).

3.3 GEOLOGY AND SOILS

The entire property is covered by grey and yellow sands of the Spearwood System comprising mainly dunes and dune ridges. The sand reaches a maximum thickness of 20 metres and is underlain by sandy clays of the Guildford Formation and limestone of the Tamala Formation.

3.4 GROUNDWATER HYDROLOGY

Based on an evaluation of information provided by the Department of Water and Environmental Regulation (DWER), together with data on static water elevation obtained from nearby private bores the maximum groundwater level at Lot 7 is estimated to be approximately 8.14mAHD beneath the old EIL area batter and approximately 10.14mAHD at the eastern boundary of the new EIL area. Groundwater flow is towards the Myalup Swamp to the west.

3.5 VEGETATION

The eastern half of the property is located in an area mapped as Heddle Vegetation Complex - Bassendean Complex-Central and South. It is described as vegetation ranging from woodland of *Eucalyptus marginata* (jarrah) – *Allocasuarina. fraseriana* (sheoak) – *Banksia spp.* to low woodland of *Melaleuca spp.* and sedgelands on the moister sites. (WALGA 2020).

The western half of the property lies in an area mapped as Karrakatta Complex-Central and South. It is described as predominantly open forest of *E. gomphocephala – E. marginata- E. calophylla* (tuart-jarrah-marri) and woodland of *E. marginata – Banksia spp.* (WALGA 2020).

A Southwest Regional Ecological Linkage axis line runs through the remnant vegetation in the middle of the property. The proposal is unlikely to affect this ecological linkage.

The proposed extension EIL area comprises of remnant native vegetation for which a clearing permit of 0.88ha will be applied for with Department of Water and Environmental Regulation (DWER). A Flora and Vegetation Survey undertaken by Lundstrom Environmental Consultants (LEC) in September 2018 over a 16ha area included the proposed extension EIL area. The survey found one vegetation type was described and mapped within the Survey Area: *Banksia attenuata - Eucalyptus marginata* open woodland over a *Hibbertia hypericoides – Melaleuca thymoides* low open shrubland over a herbland of *Dasypogon bromeliifolius*, which is consistent with the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) listed Banksia Woodlands Threatened Ecological Community (TEC). No Threatened flora under the *Biodiversity Conservation Act 2016* (BC Act) or under the EPBC Act were recorded, however three Priority flora were recorded in the Survey Area: Acacia semitrullata (P4); Millotia tenuifolia ?var. laevis (P2); and Lasiopetalum ?membranaceum (P3). None of the priority species were located near the proposed extension EIL area.

The vegetation of the Survey Area ranged from 'Excellent' to 'Degraded', with the majority of the survey site in an 'Excellent' condition, however the proposed extension EIL area was mapped predominantly as Completely Degraded to Good.

3.6 FAUNA

The EIL area is within a 'Possible' breeding area buffer, possible feeding habitat and a 'Confirmed' roosting area buffer for the threatened Carnaby's black cockatoo (*Calyptorhynchus latorostris*) (Landgate 2021).

The EIL area also contains potential for medium suitability habitat for the threatened western ringtail possum (*Pseudocheirus occidentalis*) (Landgate 2021).

A fauna survey will be conducted within the proposed area to be cleared and submitted to DWER as a part of the clearing permit application.

3.7 ENVIRONMENTALLY SENSITIVE AREAS

An Environmentally Sensitive Area (ESA) is an area where the vegetation has high conservation value and cannot be cleared. ESAs are declared by the Minister in the Environmental Protection (Environmentally Sensitive Areas) Notice 55 (2005) under section 51B of the Environmental Protection Act 1986. There are no Environmentally Sensitive Areas (ESA) as defined by the Clearing Regulations (DWER) within the proposed EIL area. The closest ESA is the dampland Conservation wetland, approximately 1.1km to the east of the new EIL area (WALGA 2020).

3.8 CURRENT ZONING

The area is zoned as "General Farming" in terms of the Shire of Harvey Town Planning Scheme No. 1 and "Rural" in terms of the Greater Bunbury Region Scheme.

3.9 BUSHFIRE PRONE AREAS

Most of the property including the new EIL area falls within a bushfire prone area as designated by the Fire and Emergency Services (FES) Commissioner on 30 July 2019 (Figure 2). However, the threat of bushfire from this operation is considered low and no habitable building, or any other structure, is to be developed.

3.10 CLOSEST RESIDENCES

The closest residences to the outer boundaries of the extraction areas are identified in Table 2 and mapped on Figure 2.

The Environmental Protection Authority (EPA) draft Environmental Assessment Guidelines "Separation distances between Industrial and sensitive land uses" lists the generic buffer for extractive industries grinding and milling works but no blasting as 500-1,000m depending on the type of processing. As this operation would be a "low scale" sand operation with no crushing and thus quieter than other extractive resources such as gravel, the minimum generic buffer would be likely to apply.

There are 3 residential sites within 1,000m of the new extraction areas (measured from the closest point), they are all at least 500m from the closest boundary of the extraction area.

Table 2. Residential Dwellings within 1,000m of the extraction area

Reference No. on Figure 2	Lot No.	Occupants Name	Distance to closest area of pit (metres)
Res 1	101	G.P. Reading	850
Res 2	111	P. W Ivankovich – listed as owner but not sure if occupier	845
Res 3	22	LandCorp	500

Potential impacts on surrounding residents are discussed further in Sections 5.7 and 5.8.

4 THE DEVELOPMENT PROPOSAL

4.1 PREVIOUS SAND EXTRACTION

There are two existing approvals for Lot 7: The existing original EIL area; and the recently approved EIL area to the east of the existing EIL area (Figure 3).

The current EIL and PC for the existing EIL area was granted on 29 September 2017 and 11 April 2017, respectively. Both will expire on 11 April 2022. This licence is for 120,000m^3 of sand to be undertaken in three equal stages, covering a total area of 15.61ha, as shown in Figure 3. Approximately a third of the extraction area (Stages 1 and 2) has had topsoil stripped and stockpiled and extraction has commenced in an area of approximately 9ha in the western part. It is estimated that approximately 40,000m^3 of sand has been extracted to date. It is estimated that the existing approved resource has 80,000m^3 of resource remaining.

The recently approved EIL area to the east of the existing EIL area had DA granted on 10 September 2020 and EIL granted on 19 July 2021, with expiry on 10 September 2025 and 19 July 2026 respectively. This licence is for 160,000m^3 of sand to be extracted from an additional area of 1.97ha, as shown in Figure 3.

This situation is made possible by the fact that a sand pit is soon to be extracted by Main Roads WA, on Lot 21 to the north. The final land surface between the two Lots will thus not contain a batter on either side as shown on Figure 4.

A summary of all approvals for Lot 7 Runnymede Road is provided in Tables 3 and 4.

Table 3. Shire of Harvey Regulatory Instruments

Approval	Date of Issue	Description	Expiry	Status
Shire of Harvey Planning Consent (ref: 10/57708) (A002575)	19/12/2011	3 stages with combined area of 15.8ha	18/12/2016	Renewed
EIL (A002575/EX/001)	15/10/2013	Lot 7, 15.8ha	06/12/2016	Renewed
EPBC Approval (2011/5996)	18/11/2011	Lot 7	14/11/2017	Expired
Shire of Harvey Development Approval (ref: 16/39708)(A2575/EX/002)	11/04/2017	Lot 7, 15.6ha	10/04/2022	Current
EIL (A002575/EX/002)	29/09/2017	Lot 7, 15.6ha	11/04/2022	Current
Shire of Harvey Development Approval (A2575/EX/003) (20/12768)	10/09/2020	Lot 7, additional area of 1.97ha	10/09/2025	Current
EIL (A002575/EX/003)	19/07/2021	Lot 7, additional area of 1.97ha	19/07/2026	Current

Table 4. Permits to Clear Native Vegetation

Approval	Date of Issue	Description	Duration of Permit	Status
CPS 5480/1	21/03/2013	Lot7, 2.86ha	12 April 2013 – 12 April 2023	Current
CPS 8916/1	11/08/2021	Lot 7, 1.97ha	03 September 2021 – 03 September 2031	Current

4.2 PROPOSED SAND EXTRACTION

B&J Catalano propose to extract a total of approximately 70,000m^3 of sand from an additional area of 1.17ha immediately to the east of the original pit, and to the south of the recently approved EIL area, as shown in Figure 3.

The proposed Stage 4 will combine the recently approved EIL area and the new proposed extension EIL area. The total extraction area of Stage 4 will be 3.13ha, resulting in a combined resource of approximately 195,000m^3.

The above resource plus the batters (~90,000m^3) will bring the total resource from this approval to 285,000m^3, and with approximately 80,000m^3 remaining from the existing EIL area, the total Lot 7 resource is estimated as 365,000m^3. Annual extraction will be approximately 70,000m^3 per annum, this may vary depending on the demand for sand.

Proposed mining actions are as follows:

- The active area will be stripped of topsoil, which will be placed in stockpiles within the extraction area.
- Within the active cell, sand will be excavated using a front-end loader and bulldozer. Trucks will enter the pit from via Runnymede Road to be loaded from the stockpile by a front-end loader.
- The depth of the excavation within the new EIL area is constrained by the fact that the entire area needs to serve as a batter to the Main Roads pit on Lot 21. Excavation will only proceed until a minimum of approximately 10m AHD is reached in the northwestern corner of Stage 4. The final landsurface will slope upwards to the north-eastern corner which will have final elevation of approximately 33m AHD (Figure 4).
- Stage 4 (comprising both recently approved and proposed extension EIL areas) land surface rehabilitation will be undertaken in line with the rehabilitation commitments outlined in the Pit Rehabilitation and Maintenance Management Plan attached as Appendix 2.
- Batters of 1:6 (vertical: horizontal) will be achieved at the completion of landsurface rehabilitation, with the whole area (Stage 4) rehabilitated to pastures.

Table 5 describes past operations undertaken on Lot 7 since 2017 and the proposed actions that will be taken by B&J Catalano over the next 5 years.

Table 5. Stages of the Mining Operation

Stage	Action	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
PAST OPERATIONS											
1	Remove topsoil and stockpile										
1	Extract sand by loader & truck										
2	Remove topsoil and stockpile										
2	Extract sand by loader & truck										
3	Remove topsoil and stockpile										
3	Extract sand by loader & truck										
1	Rehabilitate Stage 1										
2	Rehabilitate Stage 2										
3	Rehabilitate Stage 3										
Infill planting	2.28ha native vegetation										
Revegetation	2.61ha native vegetation										
PROPOSED OPERATIONS											
New Extraction Area (Stage 4) and Existing Pit Batter	Clearing of approx. 10 trees within approved footprint										
	Clearing of approx. 0.88ha within proposed footprint										
	Remove topsoil and stockpile										
	Extract sand by loader & truck										
	Rehabilitate Stage 4										

4.3 SITE ACCESS AND EGRESS ROADS

Access to the site will be obtained via Runnymede Road, with the use of a shared access drive along the northern boundary of Lot 4. Runnymede Road has been sealed and maintained by B&J Catalano for this purpose.

4.4 ESTIMATED TRAFFIC TO BE GENERATED

The following estimates are made:

- Total annual sand removal: 70,000 m^3
- Number of working days per month: 24 days
- Vehicle payloads (GAV's): Standard rigid truck (14 tonnes)

  Single Semi-loader (24 tonnes)
- Proportional use: 14 tonners (50%), 24 tonners (50%)

The above factors suggest an average of 27 truck movements per day from all Lot 7 operations, but this will be dependent on demand. Operating times will be Monday to Saturday, 6.30am to 6.00pm excluding public holidays.

5 POTENTIAL NEGATIVE ENVIRONMENTAL IMPACTS AND PROPOSED MANAGEMENT

Short term negative environmental impacts are to be expected in the process of all mining actions. However, these can largely be mitigated over the medium to long term provided that operating procedures are in accordance with acceptable standards and that rehabilitation measures are implemented as proposed. The following listed potential impacts are used as a check list to ensure that all potential major impacts are addressed.

5.1 FLORA AND FAUNA

A large portion of the property has already been cleared. The recently approved EIL area involves the clearing of approximately 10 paddock trees, which has already been approved by DWER. Catalano proposes to clear a further 0.88ha of vegetation, for which a clearing permit will be submitted. Since no significant clearing of native vegetation is proposed, impacts on native flora and fauna will be limited. The area will be returned to pastures once extraction is completed.

5.2 WEEDS

B&J Catalano will implement a weed management plan as is described in Appendix 3 of this report.

5.3 ALTERATION OF THE LAND SURFACE

No steep slopes will remain after mining, and this will ensure that the extraction area will blend into the surrounding landscape. The proposed final land surface has been illustrated in Figure 4.

5.4 VISUAL IMPACT

The proposed extraction is not in a visually sensitive area and it is unlikely that problems will be encountered from this source. The site is well screened with dense infill planting along the western boundary and the western boundary of Lot 4 also has 40m of vegetation planted along the roadside, providing adequate screening of the operations.

5.5 WATER

5.5.1 Potential Impacts

In all mining operations the potential exists for impacts to be incurred on surrounding water resources, or by storm water erosion of exposed areas. This is dependent on the slopes associated with the site, the nature of the ground materials and the proximity of the site to sensitive receptors such as productive aquifers, wetlands, lakes or rivers.

Management measures to mitigate potential impacts to or from water are contained in the Water Management Plan included as Appendix 4 and are summarised below.

5.5.2 Water Management

5.5.2.1 Surface Management

Due to the very high permeability of the sand being excavated, it is unlikely that damage from storm water runoff will occur.

5.5.2.2 Stormwater Management

Due to the very permeable nature of the sand within the operational area, it is unlikely that any expression of surface water will exist, even after heavy winter rains.

5.5.2.3 Ground Water Management

No groundwater will be exposed since the floor of the pit will be more than 0.3m above the estimated maximum water table level. The final land surface will be at least 0.5m above the estimated maximum water table level.

Due to the low scale nature of the operations, no groundwater contamination is anticipated. No fuel or lubricant storage will occur on the site. Refuelling will take place using a mobile refuelling vehicle which is equipped with a "snap-on snap-off, fast-fill and auto shut-off" facility. Plant will be refuelled each morning, leaving the vehicles almost empty overnight. No major servicing, which could lead to fuel and oil spills, will take place on the site. Minor spills which may occur occasionally will be neutralised by soil processes.

5.6 ACID SULFATE SOILS

A search of the CSIRO's Australian Soil Resource Information System (ASRIS) database identified the probability of acid sulfate soils occurring within the proposed EIL area as extremely low/confidence unknown (CSIRO, 2020).

A low probability of ASS within the EIL area is likely because the material to be excavated is deep Spearwood sands with rapid drainage characteristics. There are no remnant swampy sediments within the extraction area where acid sulphate soils might be exposed or activated as a result of the proposed extraction activities. The extraction will remain above the water table at all times.

5.7 NOISE

The majority of the noise related to the operations will be generated by a loader and the haulage trucks. The closest residence is approximately 500 metres from the nearest point of the extractive operations. Operations will be undertaken approximately 10 metres below natural ground level and topsoil stockpiles will be used as additional noise buffers. In addition, there is dense vegetation which surrounds the proposed pit area, and this will also serve to buffer any noise generated.

There have been no noise complaints from the existing operations on Lot 7 or the operations on the adjoining Lot 4 sand extraction operations, which have been in operation for many years. A contact number for complaints for both Lots is advertised on the site notice board at the entrance to the property.

5.8 DUST

The proposed sand extraction may emit dust to the atmosphere from the following activities:

- Removing topsoil.
- Excavation of sand
- Loading of haulage trucks.
- Trafficking on unsealed surfaces.

The closest resident is approximately 500 metres from the boundary of the extractive operations. Measures that will be undertaken to control and minimise impacts of dust are discussed in a Dust Management Plan, which is included as Appendix 5.

5.9 DIEBACK

5.9.1 Potential Impacts

No obvious signs of dieback infestation were observed in the uncleared vegetation within the proposed extraction area. Since the vegetation adjacent to the proposed extraction area was found to be banksia dominated vegetation and appeared in good to excellent condition (LEC Flora and Vegetation Survey 2018), it is likely to be dieback free. On the basis of this, the site should be classified as dieback free and managed as such. Guidelines for the management of the pit and the movement of vehicles in and out of the pit are contained in the Dieback Working Group guideline document (Dieback Working Group 2010).

5.9.2 Dieback Management

A Dieback Management Plan (DMP) has been included as Appendix 6, the DMP describes the measures that will be taken to limit the risk of spread of Dieback disease as a result of sand extraction, and includes the following management measures:

- The property will be fenced at all times.
- Access to the property will be via a single entrance gate.
- All machinery, trucks and other vehicles will arrive in a clean condition free of soil and organic matter that may contain dieback fungus.
- Any soil and plant material brought to the site for rehabilitation purposes should be from dieback free sources.
- The site will not be worked during wet periods.
- Employees and contractors working on the site will be informed of the purpose of the above measures and their responsibilities in relation to dieback prevention.

5.10 HERITAGE SITES

A search of the Department of Planning, Lands and Heritage (DPLH) Aboriginal Heritage Inquiry System (AHIS) shows no registered sites or other heritage places within Lot 7 (DPLH 2020). The closest sites of significance (Site No. 5806 & 5805) are located within the south-western corner of Lot 4. An archaeological survey of Lot 4 undertaken in 2008 confirmed that there was a low probability of heritage materials being found during extraction. If during the works, an Aboriginal cultural heritage site is discovered, the Proponent will immediately advise the Department of Aboriginal Affairs and abide by the *Aboriginal Heritage Act 1972*.

6 REFERENCES

CSIRO (2020). Australian Soil Resource Information System (ASRIS). [Online], http://www.asris.csiro.au. Accessed January 2020.

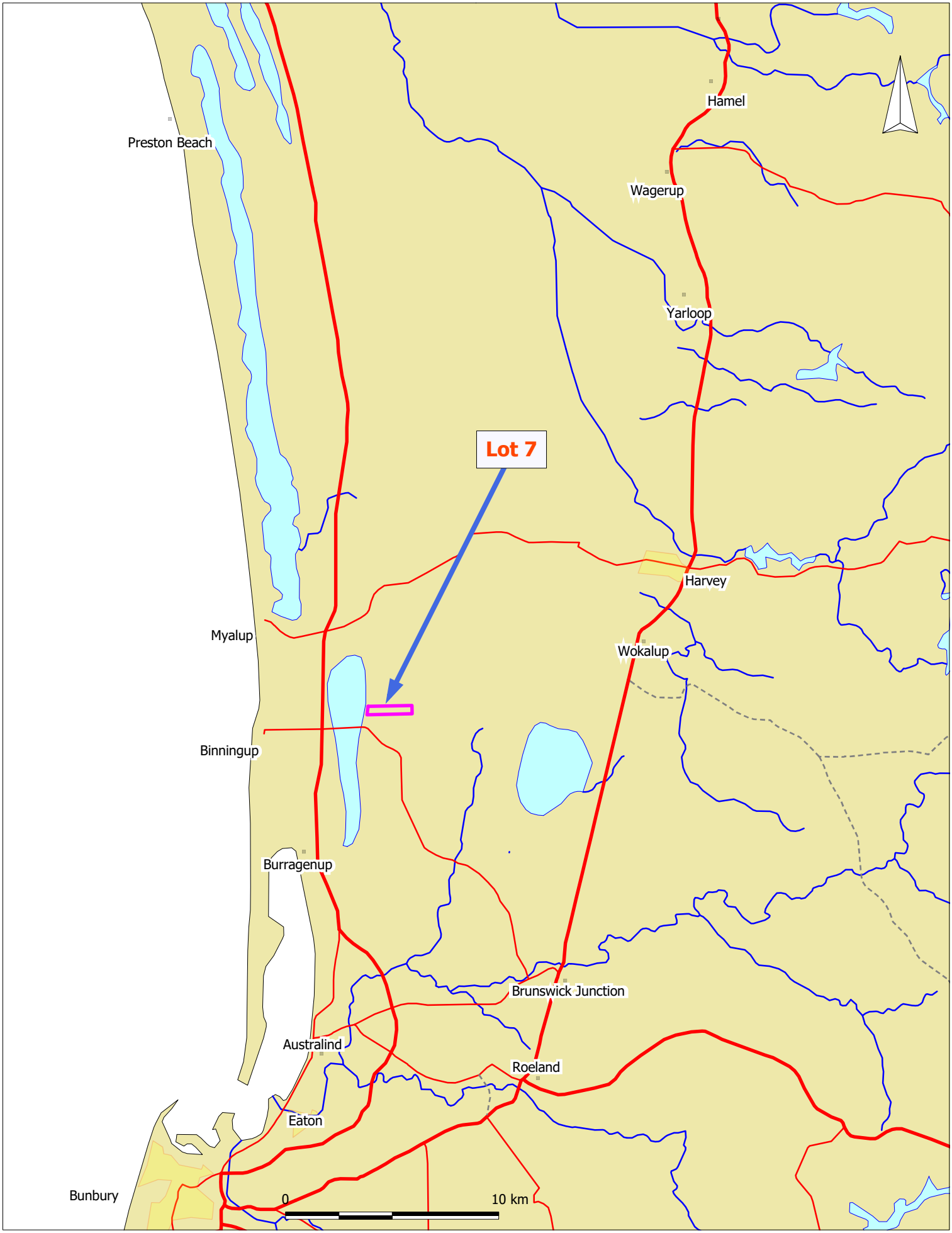
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WALGA (2020). Environmental Planning Tool (EPT). [Online], http://lbp.asn.au/index_public.html. Accessed January 2020.

FIGURES



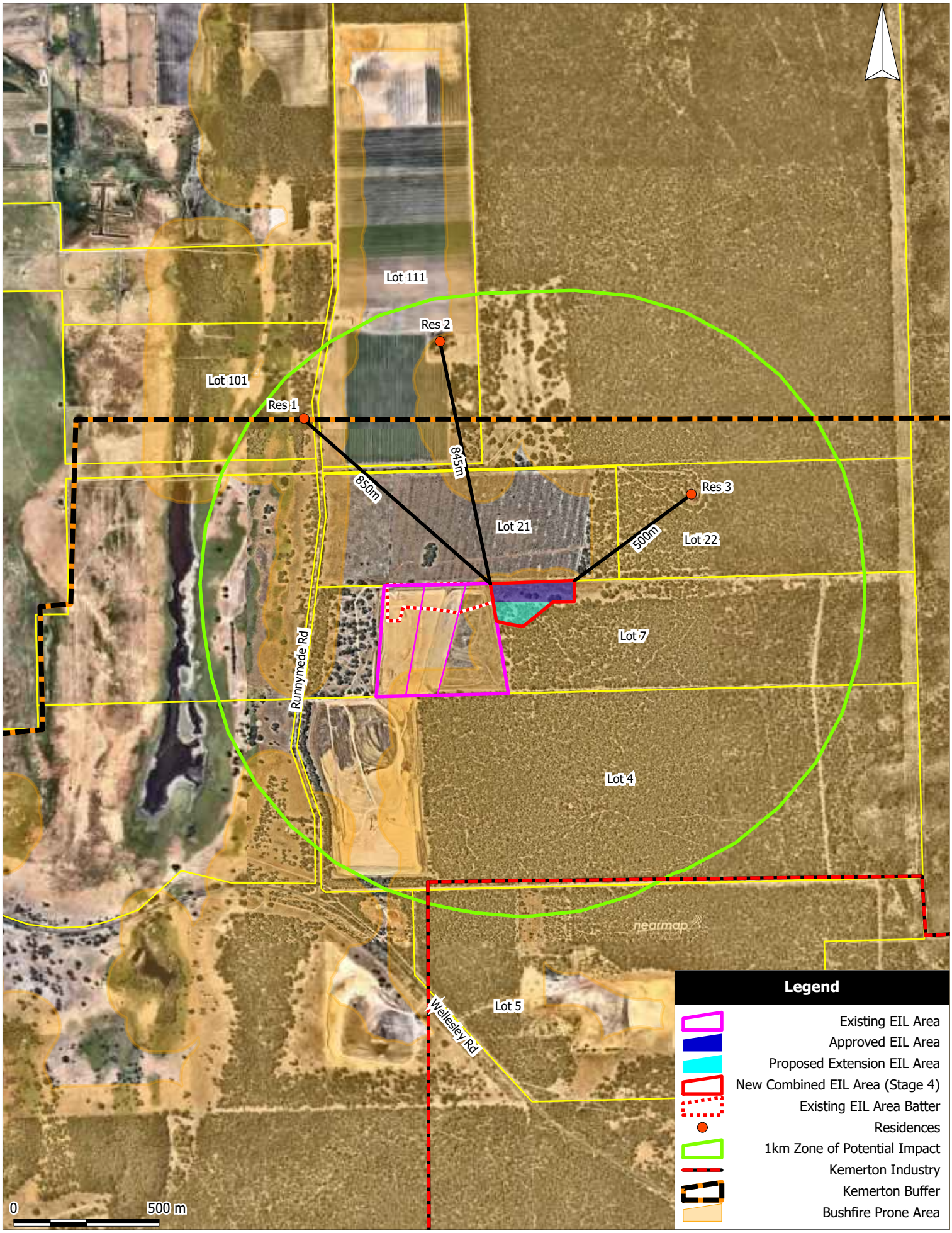
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Original Size: A4
Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Sand Extraction
Location: Lot 7 Runnymede Road Wellesley

Figure 1:

Locality Plan



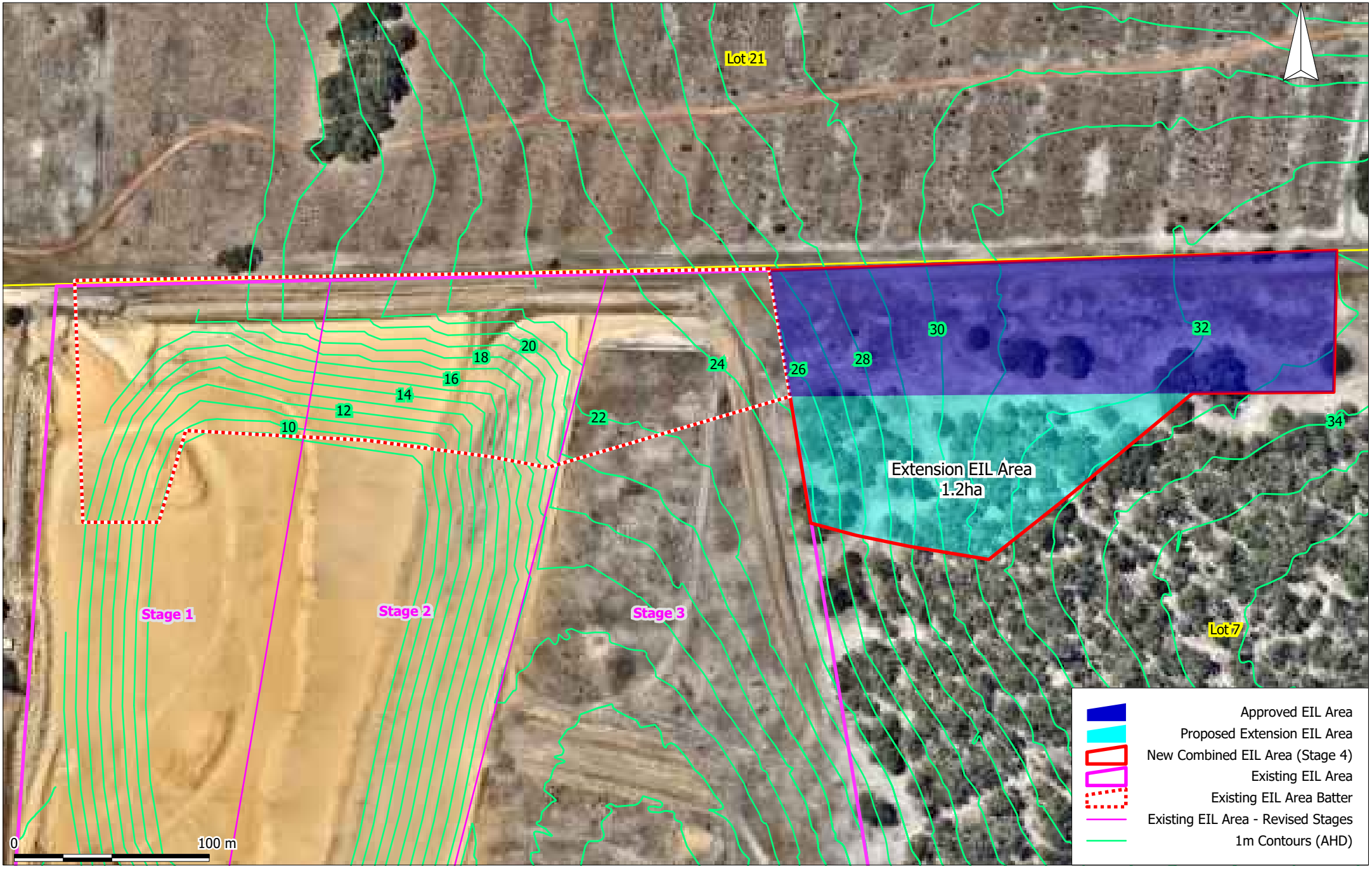
Lundstrom Environmental Consultants Pty Ltd
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Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Sand Extraction
Location: Lot 7 Runnymede Rd Wellesley

Figure 2: Site and Surrounds

Z:\Catalano\Runnymede Rd Lots 4 & 7_Wellesley_SoH_Sand\Lot 7 Runnymede Rd\EIL\EIL Applications\2021 Amendment Application\Drawings\F2 Lot 7 site surrounds.map



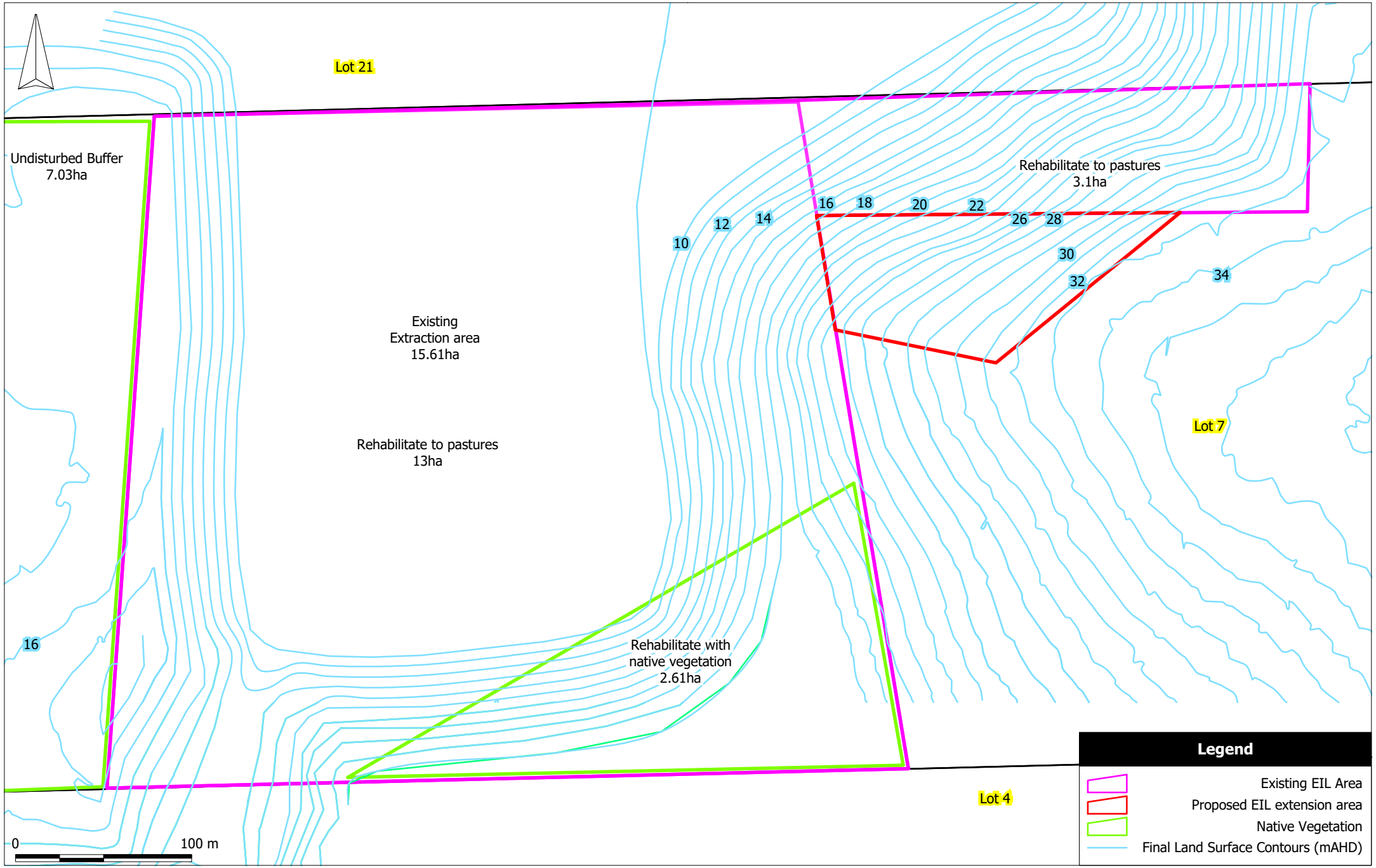
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Air Photo Source: Nearmap Dec 2019
Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Sand Extraction
Location: Lot 7 Runnymede Rd, Wellesley

Figure 3:
2021 Extension Area

Z:\Catalano\Runnymede Rd Lots 4 & 7_Wellesley_SoH_Sand\Lot 7 Runnymede Rd\EIL\EIL Applications\2021 Amendment Application\Drawings\F3 Lot 7 extraction area latest.map 31-Aug-21



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Scale: 1:2700
Original Size: A4
Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Sand Extraction
Location: Lot 7 Runnymede Rd, Wellesley

Figure 4:
Final Land Surface and Rehabilitation

Z:\Catalano\Runnymede Rd Lots 4 & 7_Wellesley_SoH_Sand\Lot 7 Runnymede Rd\EIL\EIL Applications\2021 Amendment Application\Drawings\F4 Final Land Surface and Rehab.map 23-Sep

APPENDIX 1:

APPLICATION FOR AMENDING A DEVELOPMENT APPROVAL FORM

SHIRE OF HARVEY
A Breath of Fresh Air

SHIRE OF HARVEY
DISTRICT PLANNING SCHEME NO. 1
s.77 APPLICATION FOR AMENDING OR CANCELLING A DEVELOPMENT APPROVAL

Office Use only
Registration No.: _____
Assessment No.: _____
Synergy No.: _____
Application Type: _____

OWNER/S DETAILS AND CONSENT

Name/s	S, C & B Catalano		
ABN (if applicable)			
Address	B&J Catalano Pty Ltd, South Western Highway		
Suburb	Brunswick Junction WA	Post Code	6224
Phone Home		Mobile	0407857026
Work	97268100	Fax	
Email	peterbennett@catalano.com.au		
Contact Person:	Peter Bennett		
Signature:		Signature:	
Date:	25/08/2021	Date:	

Note: The signature of the owner/s is required on all applications. This application will not proceed without that signature. For the purposes of signing this application an owner includes the persons referred to in the Planning and Development (Local Planning Schemes) Regulations 2015 Schedule 2 Clause 62(2).

APPLICANT'S DETAILS (IF DIFFERENT FROM OWNER)

Name/s	B&J Catalano Pty Ltd		
Address	South Western Highway		
Suburb	Brunswick Junction WA	Post Code	6224
Phone Home		Mobile	0407857026
Work	97268100	Fax	97261575
Email	peterbennett@catalano.com.au		
Contact Person for Correspondence:	Peter Bennett		

The information and plans provided with this application may be made available by the Shire for public viewing in connection with the application. ☑ Yes ☐ No

Signature:		Date:	25/08/2021

PROPERTY DETAILS					
Lot No:	7	House/Street No:		Location No:	
Diagram or Plan No.	D40591	Certificate of title Vol. No:	1358	Folio:	260
Title encumbrances (e.g. easements, restrictive convenants):					
Street name	Runnymeade Rd	Suburb	Wellesley		
Nearest Street Intersection	Wellesley Road North				

DEVELOPMENT APPROVAL	
Nature of Development/Use Approved :	Sand extraction
Date of Development Approval:	10 September 2020

REASON FOR AMENDMENT OR CANCELLATION	
☐ Extension of time for the development/use approved to be substantially commenced	
Period of additional time requested:	
☐ Amend or delete any condition to which the Approval is subject	
Applicable conditions:	
☒ Amend an aspect of the development/use	
Will these amendments substantially change the development/use approved? ☒ No ☐ Yes (if Yes, a new Application for Development Approval is required)	
Details of amendments:	
Sand extraction over an additional 1.17ha of existing site.	
☐ Cancel the approval	
Reasons for cancellation:	

APPENDIX 2

PIT REHABILITATION AND MAINTENANCE MANAGEMENT PLAN

LUNDSTROM ENVIRONMENTAL CONSULTANTS Pty Ltd

ACN 600 398 945

21 Sellen Court
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REHABILITATION ANDMAINTENANCE PLAN

Prepared for B&J Catalano Pty Ltd
For Lot 7 Runnymede Road, Wellesley
Shire of Harvey

1. INTRODUCTION

The purpose of this report is to describe the measures that will be taken to rehabilitate the area of land impacted by sand quarrying on Lot 7 Runnymede Road, Wellesley, Shire of Harvey. This document should be read in conjunction with other documents submitted by various authors to the Shire of Harvey and the Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) in regard to the proposed sand quarry on this property. These documents include the following:

- Runnymede Road Cockatoo Management Plan (Ecoedge Pty Ltd)

The current application includes the extraction of the batter between Lot 7 and 21 and a new extraction area to the east of the existing pit on Lot 7 but does not change the commitments associated with the above-mentioned documents.

2. PROPOSED EXTRACTION

An updated summary of the proposed extraction operation is contained in Table 1.

Table 1: Stages of the Extraction Operation

Stage	Action	2017	2018	2019	2020	2021	2022	2023	2024	2025
PAST OPERATIONS										
1	Remove topsoil and stockpile									
1	Extract sand by loader & truck									
2	Remove topsoil and stockpile									
2	Extract sand by loader & truck									
3	Remove topsoil and stockpile									
3	Extract sand by loader & truck									
1	Rehabilitate Stage 1									
2	Rehabilitate Stage 2									
3	Rehabilitate Stage 3									
Infill planting	2.28ha native vegetation									
Revegetation	2.61ha native vegetation									
PROPOSED OPERATIONS										
New Extraction Area and Existing Pit Batter	Clearing of approx. 10 trees									
	Remove topsoil and stockpile									
	Extract sand by loader & truck									
	Rehabilitate									

3. REHABILITATION

3.1 PROPOSED REHABILITATION MEASURES

3.1.1 State and Federal Compliance

In order to comply with local, state and federal government approvals for this project, the following rehabilitation commitments have been made by B&J Catalano (Figure 1):

- A 9.31ha vegetated buffer along Runnymede Road will be maintained. This buffer comprises of two areas; a 2.28ha strip adjacent to Runnymede Road which has been infill planted with endemic species which are suitable as black cockatoo habitat, and an area of 7.03ha which will be retained, but not infill planted.

- Within the existing extraction area of 15.61ha, 13ha will be returned to pastures and 2.61ha will be planted with native vegetation using suitable black cockatoo habitat species.

- The new extraction area and existing pit batter will be returned to pastures.

3.1.2 Rehabilitation

It is proposed to rehabilitate the pit over the time period shown in Table 1 and this will involve the following actions:

- All batters behind the active working face will be contoured to achieve a slope of no more than 1:6. In achieving this, care will be taken not to impact fringing vegetation

- Final land surface will approximately 10m below surrounding natural ground levels.

- Stockpiled topsoil/overburden will be replaced as quickly as possible in order to maintain its viability and will be re-spread over completed areas so as to create a land surface, which is aesthetically pleasing, and easily trafficable.

- Final levelling of topsoil will be undertaken using light agricultural equipment to obviate excessive compaction and rutting.

- Within the 13ha area to be rehabilitated to pasture, a suitable pasture mix will be planted. Prior to seeding, a suitable compound fertiliser will be applied at a rate of 200kg/ha. Recommended pasture crops and seeding rates are as follows:

Goulbourn subclover	3kg/ha
Junee sub clover	6kg/ha
Prikkala subclover	6kg/ha
Serradella Cadiz	10kg/ha
Wimmera ryegrass	8kg/ha

- Within the 2.81ha area endemic native species suitable for black cockatoo habitat will be planted as described in 3.1.3 below.

- Rehabilitation work will only be carried out just prior to or at the commencement of the wet season.

- Any weed control required will be undertaken as and when required. This is discussed in the Weed Management Plans.

3.1.3 Native Plant Species and Planting Rates

Table 2 contains proposed species and planting rates for the 2.61ha area identified for in-pit rehabilitation (Figure 1). It should be noted that upper storey plant species identified in Table 2 have already been utilised for infill planting within the 2.28ha buffer strip adjacent to Runnymede Road.

Table 2: Proposed Species and Planting Rates

Storey	Species	Planting Rate
Upper	*Eucalyptus gomphocephala, Eucalyptus marginata, Corymbia calophylla, Agonis flexuosa, Banksia attenuata.*	Treelings to be planted at a rate of 1100 stems per ha, staggered.
Middle and lower	Middle and lower storey to be direct seeded with the following species: *Calothamnus quadrifidus, Acacia extensa, A. pulchella, Astartea scoparia, Melaleuca incana, M. pauciflora, M. preissiana, M. thymoides, M. teretifolia, M. huegelii, Kunzea ericifolia, Hypocalymma angustifolium, Hardenbergia comptoniana, Kennedia prostrate*	3kgs of seed mix per ha.

3.2 MONITORING AND MAINTENANCE

Monitoring of rehabilitated areas will ensure that any areas requiring remedial work are identified. Monitoring will be carried out on an annual basis to assess:

- The physical stability of the landform in the rehabilitated areas.
- Success of germination of pasture grasses and native endemic species.
- The emergence of weeds.

Monitoring will continue until the completion criteria presented in Section 3.3 have been fulfilled. Maintenance procedures will be carried out where necessary and will include:

- Repair of any erosion damage.
- Replanting/seeding areas that may not have regenerated.
- Weed control.

3.3 COMPLETION CRITERIA

Completion criteria must be sufficiently stringent to ensure that the overall objectives of the rehabilitation have been met. These criteria must also be designed to allow effective reporting and auditing to define an endpoint for the rehabilitation activities.

The completion criteria proposed for extractive operations on Lot 7 are presented in Table 3.

Table 3: Closure Criteria, Objectives, Monitoring, Maintenance and Interim Targets

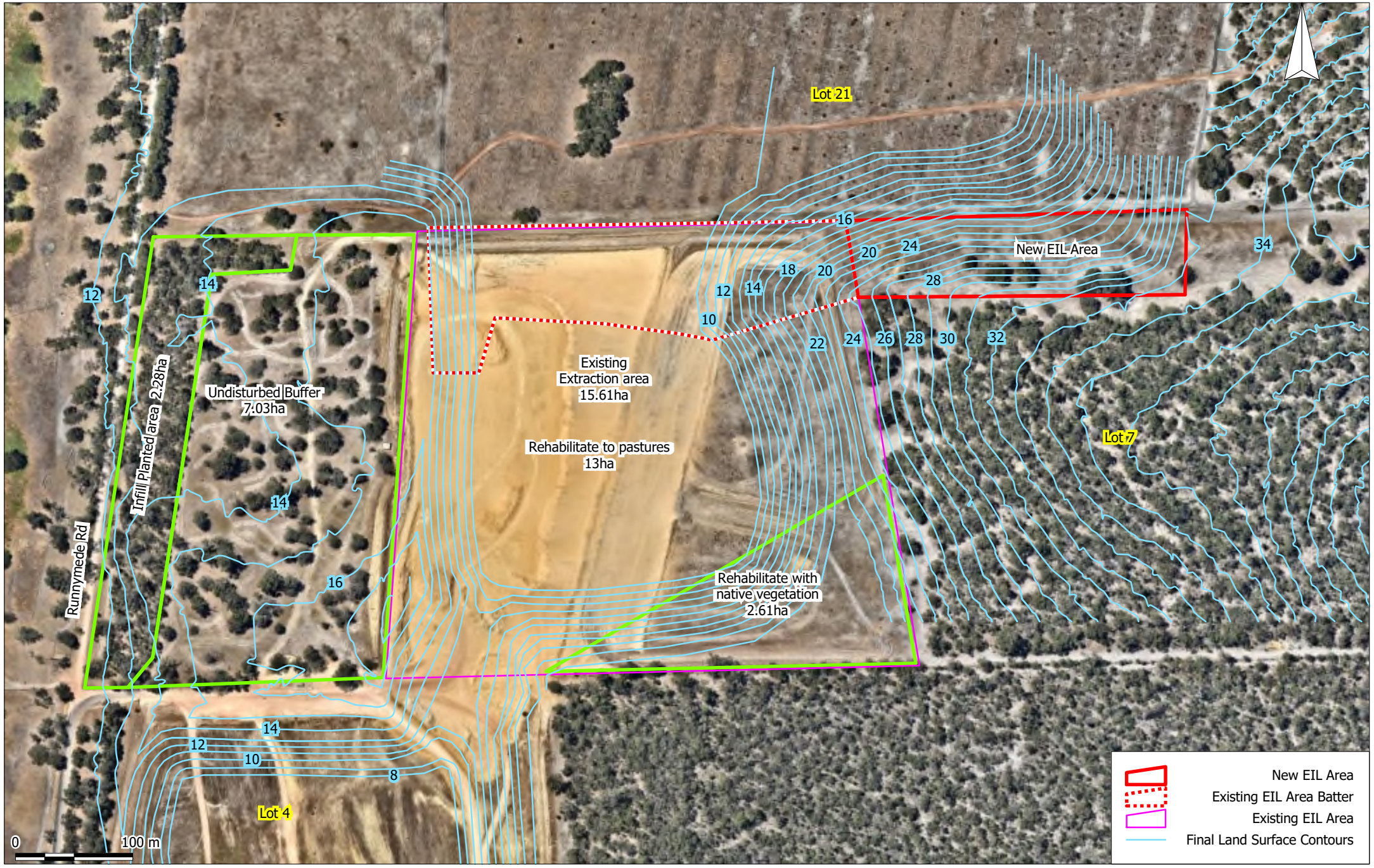
Criteria	Objective	Interim Targets
1. Safety	The site is safe to humans.	• Site is safe to humans during operations.
2. Sustainability	The site is sustainable in the long term without additional management inputs.	-
3. Suitability	The site is suitable for agricultural uses.	-
4. Visual amenity and heritage	The rehabilitated extraction area blends into the surrounding environment.	-
5. Off-site impacts	Significant adverse off-site impacts are prevented.	-
6. Hydrology	a. Site hydrology does not prevent the establishment of desired vegetation. b. Site hydrology does not reduce the stability of the landform. c. Stormwater is contained within the site.	• Stormwater is contained within the site during operations. Identification and mitigation of any hydrology related issues during operations.
7. Soils and stability	a. Soil profiles and structures are sufficient to ensure vegetation establishment. b. The landform is stable.	• Topsoil is respread in all rehabilitation areas. Identification and mitigation of potential erosion scars and scours during operations.
8. Vegetation	a. Pasture grasses cover the entire targeted area of 13ha. b. Pasture grass cover is sufficiently resilient to sustain grazing pressure. c. Native species planted as buffers along the northern and eastern boundaries include *E. gomphocephala, Corymbia calophylla, Banksia attenuata and Agonis flexuosa.* Survival rates to be 1,100 stems per ha. d. Monitoring will be conducted on an annual basis just prior to the wet season and will include plant survival rates and stability of the constructed batters. e. Maintenance will include the replacement of plants in all areas that do not meet the interim targets	After 1 year pasture grasses cover 30% of target area, increasing by 20% per annum thereafter. For native plants: After the first season at least 50% survival rate after the following dry season. Successful establishment of 70% of plant propagules after 1 year, 80% by year 3 and 100% by year 7. The existence of at least 1,100 stems per ha (on average). Inspection by qualified botanist 3 and 5 years after native vegetation planting to assess survival rates and plant condition.
9. Weeds	a. Declared pest weeds are absent. b. The level of weed species should not be detrimental to the planted seedlings or pasture grasses.	Weed species removed systematically during operations.

4. ATTACHMENTS

FIGURES

Figure 1 Final Land Surface and Rehabilitation

FIGURES



Lundstrom Environmental Consultants Pty Ltd

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Scale: 1:4100
Original Size: A4
Air Photo Source: Nearmap Dec 2019
Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Sand Extraction
Location: Lot 7 Runnymede Rd, Wellesley

Figure 1:
Final Land Surface and Rehabilitation

APPENDIX 3

WEED MANAGEMENT PLAN

LUNDSTROM ENVIRONMENTAL CONSULTANTS Pty Ltd

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WEED MANAGEMENT PLAN

Prepared for B&J Catalano Pty Ltd
For Lot 7 Runnymede Road, Wellesley
Shire of Harvey

1. INTRODUCTION

This Weed Management Plan (WMP) has been prepared in accordance with guidelines published by the Department of Agriculture and Food (DAF) (DAF 2014).. This WMP should be read in conjunction with the report titled "*Extractive Industries Licence Application & Environmental Management Plan (EMP), Lot 7 on Diagram 40591 Runnymede Road, Wellesley*, prepared for B&J Catalano, March 2020".

2. LOCALITY AND OWNERSHIP

Locality: Lot 7 Runnymede Road, Wellesley, Shire of Harvey

Ownership: B, C & S Catalano

Figure 1 is a recent aerial photograph showing the property and surrounds, also identifying the extraction area.

3. THE DEVELOPMENT PROPOSAL

B&J Catalano propose to extract a total of approximately 160,000m3 of sand from two additional areas; an area of 1.97ha immediately to the east of the existing pit (~70,000m^3) and the northern batter of the existing pit adjoining Lot 21 (~90,000m^3) as shown in Figure 1.

It is estimated that the existing approved resource (15.61ha) has 80,000m^3 remaining. The additional resource created by this application will thus make a total available resource from this site of approximately 240,000m^3. Annual extraction will be approximately 50,000m^3 per annum, this may vary depending on the demand for sand.

It is intended to rehabilitate 2.61ha to native vegetation and the remainder of the disturbed area back to pastures.

4. RESPONSIBILITIES

B&J Catalano Pty Ltd accepts responsibility for weed management within the present and past extraction areas and any areas identified within the conditions of approval set by the Shire of Harvey. All other areas on the property will remain the responsibility of the landowner.

5. CURRENT WEED STATUS OF THE PROPERTY

Based on recent field visits, no declared weeds or weeds of local or regional significance were observed. It is acknowledged that the proposed ground disturbance may result in the germination of certain weeds, but the species will not be known until emergence. Cotton bush and apple of Sodom are known weeds that are likely to occur and these will be specifically targeted in the routine management.

6. PROPOSED WEED MANAGEMENT ACTIONS

The following is a general description of the actions that will be implemented by B&J Catalano Pty Ltd for weed management:

6.1 Weed Management Zones on the Subject Land

For the purpose of this WMP, the subject land has been allocated zones as follows:

Zone A: This is all the land within the quarry and includes the base of the excavation, roadways and stockpiles of topsoil, overburden and all product stockpiles.

Zone B: This is all land that is at natural level and which extends 100 meters beyond the perimeter of the quarry and includes any stockpiles of soil or overburden created by the excavation.

6.2 Weed Emergence Monitoring

Monitoring of the emergence of weeds in Zones A and B will be undertaken by an experienced and licenced weed management contractor on a 6 monthly basis i.e. after the first seasonal rains and at the end of spring. In addition, B&J Catalano personnel on the site will be instructed to report any infestations that may occur on other occasions. Based on the type of weed that emerges, a control plan will be formulated by the licenced weed management contractor.

6.3 Import and Export of Weeds

B&J Catalano will ensure that all plant and equipment is clean and free of any soil when moving any equipment to or from the site. B&J Catalano will also ensure that any quarry products imported to the site will be free of weeds.

6.4 Weed Control Program

If a weed infestation occurs within Zones A or B, the licenced weed management contractor will apply the appropriate method of control, in accordance with the guidelines published by the DAF , whether chemical or mechanical, at the appropriate time. The weed management contractor will keep a record of all treatments.

7. REFERENCES

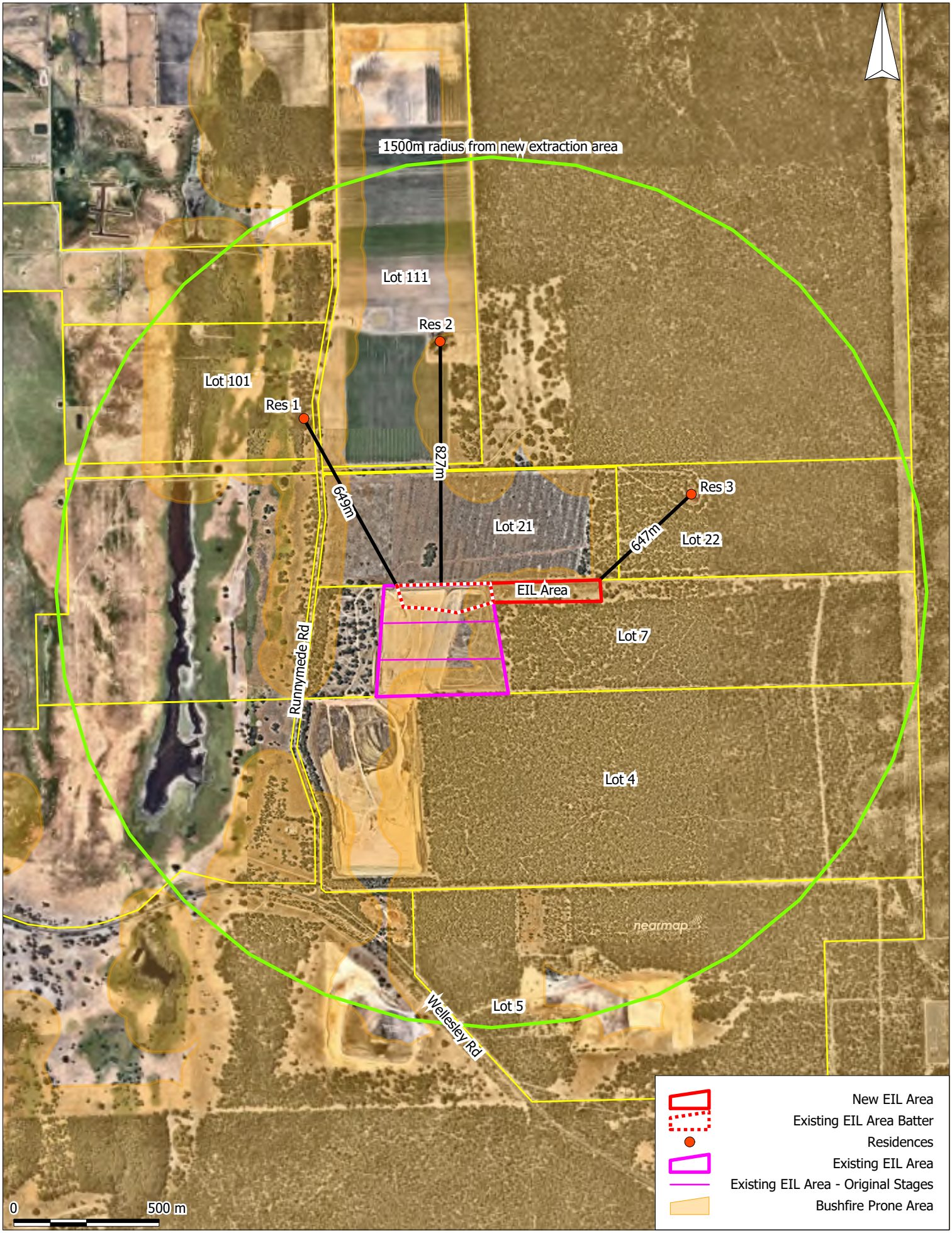
Department of Agriculture and Food (DAF) (2014). Department of Agriculture and Food WA Guidelines for weed control procedures for extractive industries licence.

8. ATTACHMENTS

FIGURES

Figure 1 Site and Surrounds

FIGURES



Lundstrom Environmental Consultants Pty Ltd
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Scale: 1:16000
Original Size: A4
Air Photo Source: Nearmap Dec 2019
Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Sand Extraction
Location: Lot 7 Runnymede Rd Wellesley

Figure 1: Site and Surrounds

APPENDIX 4

WATER MANAGEMENT PLAN

LUNDSTROM ENVIRONMENTAL CONSULTANTS Pty Ltd

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WATER MANAGEMENT PLAN

Prepared for B&J Catalano Pty Ltd
For Lot 7 Runnymede Road, Wellesley
Shire of Harvey

1. INTRODUCTION

This Water Management Plan (WMP) relates to an application for sand extraction from a 1.97ha area located to the east an existing pit Lot 7 Runnymede Road, Wellesley in the Shire of Harvey. It is also proposed sand from the northern wall of the existing pit adjoining Lot 21 as a sand quarry is also proposed at this site and it is planned to eventually join the neighbouring pits. This WMP should be read in conjunction with the report titled "*Extractive Industries Licence Application & Environmental Management Plan (EMP), Lot 7 on Diagram 40591 Runnymede Road, Wellesley*, prepared for B&J Catalano, March 2020".

This report provides the following information:

- A description of the property and surrounds indicating the current contours.
- A description of the proposed stockpile removal and rehabilitation program.
- Storm water and erosion management measures.
- A description of the groundwater regime in the area.
- A description of the proposed final land use after extraction has been completed.
- A description of potential impact on surrounding wetlands.
- A description of the potential for acid sulfate soil impacts.

2. PROPERTY DESCRIPTION, OWNERSHIP AND LOCALITY

Property Description:	Lot 7 Runnymede Rd Wellesley Shire of Harvey
Area:	80.18 hectares
Ownership:	S, C & B Catalano Pty Ltd
Latitude:	-33.1392
Longitude:	115.7496

The property is situated approximately 23 km north of Bunbury and is currently used for sand extraction. The property has historically been used for the grazing of livestock.

Figure 1 is a recent aerial photograph showing the proposed and existing operations on the property.

3. SURROUNDING LAND USE

Lot 4 adjoining it to the south is also operated by B&J Catalano for sand extraction. Main Roads proposes to establish a sand quarry on Lot 21 adjoining the property to the north. The historic use of Lot 21 was as a pine plantation but in January 2016, the pines were harvested (LEC, 2020). Other properties surrounding the proposed operation are mainly used for grazing. Figure 1 illustrates the land use patterns of the immediate surrounds.

4. PROPOSED WORKS AND POTENTIAL IMPACTS

B&J Catalano propose to extract a total of approximately 160,000m3 of sand from two additional areas; an area of 1.97ha immediately to the east of the existing pit (~70,000m^3) and the northern batter of the existing pit adjoining Lot 21 (~90,000m^3) as shown in Figure 1.

It is estimated that the existing approved resource (15.61ha) has 80,000m^3 remaining. The additional resource created by this application will thus make a total available resource from this site of approximately 240,000m^3. Annual extraction will be approximately 50,000m^3 per annum, this may vary depending on the demand for sand.

It is intended to rehabilitate 2.61ha to native vegetation and the remainder of the disturbed area back to pastures.

The following Table outlines the proposed mining actions:

Table 1: Stages of the Mining Operation

Stage	Action	2017	2018	2019	2020	2021	2022	2023	2024	2025
PAST OPERATIONS										
1	Remove topsoil and stockpile									
1	Extract sand by loader & truck									
2	Remove topsoil and stockpile									
2	Extract sand by loader & truck									
3	Remove topsoil and stockpile									
3	Extract sand by loader & truck									
1	Rehabilitate Stage 1									
2	Rehabilitate Stage 2									
3	Rehabilitate Stage 3									
Infill planting	2.28ha native vegetation									
Revegetation	2.61ha native vegetation									
PROPOSED OPERATIONS										
New Extraction Area and Existing Pit Batter	Clearing of approx. 10 trees									
	Remove topsoil and stockpile									
	Extract sand by loader & truck									
	Rehabilitate									

5. EXISTING ENVIRONMENT

5.1 TOPOGRAPHY, HYDROLOGY AND WETLANDS

Lot 7 has natural elevations ranging between approximately 12 and 52mAHD (Landgate 2020). There is an existing pit on the property with a final, rehabilitated pit floor elevation of 9 mAHD and batters of 1:6 (Figure 3). The new extraction area is located immediately to the east of the existing pit and slopes gently from 35 mAHD in the east and 26 mAHD in the west (Figure 3).

There are no defined drainage lines within the extraction area as drainage occurs by infiltration into the porous sand surface. Runoff is unlikely to be generated by heavy winter rainfalls due to the porous nature of the surface and low slopes within the extraction area.

A dampland wetland (Myalup Swamp) located to the west of property, approximately 370 metres from the proposed operations on site. The management category for most of this wetland is classified as Multiple Use but a small portion of the wetland, 1.5km from the proposed operations, is classified as Conservation. There is also a dampland Conservation wetland, approximately 1.1km to the east of the EIL area (Landgate 2020). These Conservation wetlands are also EPP wetlands.

No Environment Protection Policy (EPP) lakes or ANCA or RAMSAR wetlands exist within 1 000 metres of the proposed extraction areas (Landgate 2020 and WALGA 2020).

The site does not fall within a RIWI Surface Water Proclamation Area (Landgate 2020).

5.2 GEOLOGY AND SOILS

The entire property is covered by grey and yellow sands of the Spearwood System comprising mainly dunes and dune ridges. The sand reaches a maximum thickness of 18 metres and is underlain by sandy clays of the Guildford Formation and limestone of the Tamala Formation.

5.3 GROUNDWATER HYDROLOGY

The property lies within a Rights in Water Irrigation Act 1914 (RIWI) Groundwater Proclamation Area (South West Coastal Groundwater Area) overseen by the DWER.

The property does not fall within a Public Drinking Water Source Area.

An evaluation of groundwater hydrology was conducted recently in January 2020 by Lundstrom Environmental for Main Roads for the neighbouring property to the north (Lot 21) (LEC, 2020). Analysis of data on groundwater levels focused on the last five years of bore data due to harvesting of pines on Lot 21 in 2016 and a trend in declining rainfall in the area. The results of this investigation have been used to determine the groundwater flow direction and maximum groundwater level under Lot 7 as detailed below.

The nearest long-term Department of Water and Environmental Regulation (DWER) monitoring bores installed in the superficial aquifer surrounding the site are the Lake Clifton Bores E1B, E2B, E3B, E4A, E5B, E7, F1, F2A, F3, F5, F9A, G4, G5 and G6 (Table 1). Hydrographs of these DWER monitoring bores are included in Annexure 1.

Recent data on groundwater levels has also been collected from three private monitoring bores near the site as detailed in Table 2 below. One of these bores is located on a sand quarry approximately 0.5km to the south of the site (Lot 4 Runnymede Road, Wellesley) and two are located on a sand quarry approximately 3km to the northwest (Lot 24 Old Coast Road, Myalup). Hydrographs for these bores are included in Annexure 2.

The hydrographs attached in Annexures 1 and 2 show that water levels in the bores surrounding the site have remained relatively stable over the past 5 years.

Groundwater contours have been drawn using available data from both DWER bores and private monitoring bores for the following:

- **Maximum GWL - October 2017 (Figure 2).**
  The contours shown on this figure are representative of maximum groundwater levels at the site because this is the date of the highest water level recorded in the Lot 4 monitoring bore and the third highest water level recorded over the past five years at F5. The historical maximum in F5 for this period was only 0.14 m higher.

The above data gave a good estimate of the contours for the western portion of the site, however the position contours for the eastern portion of the site were estimated based on the hydraulic gradient under the site and the hydraulic gradient for the E line and G line bores. These bores are too far to extrapolate for this site, however dashed contour lines have been drawn to provide an estimation of the groundwater height for the eastern portion of the site.

Groundwater Flow Direction

The contours for October 2017 show the water table rises in an easterly direction beneath the site. This confirms that the groundwater flow direction is towards the wetland immediately to the west of the site.

Maximum Groundwater Levels

The hydraulic gradient that existed under the site in October 2017 was 1:263. Using the contours at this time, it can be estimated that the water table was approximately 8 mAHD beneath the portion of the old EIL area batter that will be removed and approximately 10 mAHD at the eastern boundary of the new EIL area (Figure 2).

Given that the historical maximum recorded over the past five years for F5 was 0.14m higher, the maximum groundwater level at Lot 7 is estimated to be approximately 8.14 mAHD beneath the old EIL area batter and approximately 10.14 mAHD at the eastern boundary of the new EIL area.

Main Roads intends to undertake further monitoring of from on-site bores/piezometers on Lot 21. If further groundwater monitoring data becomes available this will be used to refine the current estimation of the maximum groundwater level.

Table 1: Summary of Groundwater Level (GWL) Data for DWER Monitoring Bores 2014 to 2019 (DWER 2020)

Bore ID	Ground Elevation (mAHD)	Distance and Direction from site	Historic Max. GWL (mAHD)	Date of Historic Max. GWL	Oct 2017 GWL (mAHD)	Historic Min. GWL (mAHD)	Date of Historic Min. GWL*	Mar 2019 GWL (mAHD)	Median GWL (mAHD)
E1B	0.485	8.1 km NW	-0.193	22/09/2017	-0.293	-1.003	21/05/2014 and 21/05/2015	-0.773	-0.693
E2B	5.548	7.7 km NW	1.874	22/09/2017 and 19/10/2017	1.874	0.914	21/04/2017 and 19/05/2017	0.914	1.154
E3B	5.900	7.6 km NW	3.981	21/09/2017 and 20/09/2018	3.741	2.391	20/05/2019	2.811	3.041
E4A	16.553	7.5 km NW	8.419	21/10/2014	8.279	7.689	20/05/2019	7.889	8.069
E5B	13.274	7.7 km N	9.485	21/10/2014	9.195	8.865	20/05/2019	8.915	9.145
E7	17.462	8.0 km NE	14.404	21/09/2017	14.214	13.024	22/05/2018	13.174	13.414
F1	3.923	4.6 km SE	2.419	21/10/2014	1.913	1.223	18/04/2019	1.253	1.833
F2B	2.133	3.8 km SE	1.953	20/09/2018	1.233	0.043	18/03/2016	0.213	0.493
F3	7.680	2.9 km SE	2.982	19/09/2019	2.632	1.222	17/05/2019	1.322	1.778
F5	6.580	1.5 km SE	4.509	21/09/2017	4.369	3.249	18/03/2016	3.329	3.479
F9A	8.084	1.9 km E	4.123	21/10/2014	3.993	3.073	21/05/2018	3.243	3.363
G4	12.488	4.3 km SE	3.55	21/10/2014	3.230	2.668	17/03/2014	2.770	2.995
G5	8.036	4.5 km S	5.661	21/10/2014	5.401	4.551	18/04/2019	4.571	5.021
G6	38.598	4.4 km S	11.375	20/11/2014	11.145	10.845	17/05/2019	10.925	11.085

Table 2: Summary of Groundwater Level (GWL) Data for Private Monitoring Bores

Bore ID	Top of Casing Elevation (mAHD)	Distance and Direction from site	Historic Max. GWL (mAHD)	Date of Historic Max. GWL	Oct 2017 GWL (mAHD)	Historic Min. GWL (mAHD)	Date of Historic Min. GWL*	Mar 2019 GWL (mAHD)	Median GWL (mAHD)	Period Monitoring Data Available
Lot 4 MB	12.290	0.5 km S	6.54	11/10/2017	6.54	5.79	13/03/2019	5.79	6.09	September 2016 to June 2019
Lot 24 MB - W	8.200	3.2 km NW	2.900	30/11/2017	2.200	1.700	30/04/2019	2.100	2.200	August 2015 to June 2019
Lot 24 MB - E	7.995	2.9 km NW	3.345	29/09/2018	-	2.245	30/04/2016	2.695	2.745	August 2015 to June 2019

5.4 RAINFALL

One of the closest open rainfall recording stations with long term rainfall records is Roelands (~16km) and it has a mean annual rainfall of 881.7 mm. The wettest months are May, June and July and the driest months are December, January and February. The highest recorded rainfall was 1423 mm in 1945 and the lowest was 476 mm in 2010. Table 2 shows the average monthly and annual rainfall for Roelands.

Table 2: Mean Rainfall Data for Roelands 9657 for Period 1942 to 2019 (BoM 2020a)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
12.3	11.3	22.2	49.0	124.4	179.0	173.4	129.3	86.5	51.2	31.6	15.9	881.7

Rainfall intensity has been calculated using the Bureau of Meteorology (BoM) Rainfall Intensity-Frequency-Duration (IFD) data system (BoM 2020b), which yields the 2hr 10% Annual Exceedance Probability (AEP) (37.8 mm). The DWER recommends that surface water runoff produced within the mined area from this rainfall event should be contained within the pit (DWER 2019). This aspect is discussed later in this document.

6. WATER MANAGEMENT

6.1 STORMWATER MANAGEMENT

The existing pit and the final landsurface will be internally draining, with the final levels being approximately 10m below surrounding natural ground levels. Stormwater within the pit area will drain internally and will therefore not impact on the surrounding landsurface.

6.2 SURFACE WATER MANAGEMENT

Due to the very permeable nature of the sand within the operational area, it is unlikely that any expression of surface water will exist, even after heavy winter rains.

6.3 GROUND WATER MANAGEMENT

No groundwater will be permanently exposed by this development since excavation of the old EIL area batter will only proceed until a level of 9.0 m AHD has been reached, which will be more than 0.3m above the estimated maximum water table level (8.14 mAHD beneath the old EIL area batter to be removed). This is in line with the DWER recommended minimum separation depth of 300mm between the base of the pit and the likely maximum seasonal groundwater level (Brendan Kelly, pers. comm. September, 2019).

The land surface beneath the old EIL batter will be rehabilitated to a final level of 9.0 m AHD so it is level with the existing pit. This level is more than 500mm above the estimated maximum water table level beneath this location, and in keeping with the DWER recommendations (Brendan Kelly, pers. comm. September, 2019).

The depth of the excavation of the new EIL area is constrained by the fact that the entire area needs to serve as a batter to the Main Roads pit on Lot 21, with a slope of 1:6. Excavation of the new EIL area will only proceed until a minimum of 16 m AHD is reached in the north western corner. The final landsurface will slope upwards to the north eastern corner which will have final of elevation of 33 m AHD. The levels of this batter will be approximately 6 to 23m above the estimated maximum water table level beneath the new EIL area (approximately 8.5 to 10m AHD), therefore well above the DWER requirements.

The proposed final land surface is shown on Figure 3.

When water is required for dust management, it will be abstracted from a production bore on Lot 4 Runnymede Road. The abstraction of minor volumes of water for dust suppression is not expected to have significant impact on local groundwater levels.

No dewatering activities will be undertaken.

Due to the low scale nature of the operations, no groundwater contamination is anticipated and there is no risk to any private groundwater supply. No fuel or lubricant storage will occur on the site. Refuelling will take place using a mobile refuelling vehicle which is equipped with a "snap-on snap-off, fast-fill and auto shut-off" facility. Plant will be refuelled each morning, leaving the vehicles almost empty overnight. No major servicing, which could lead to fuel and oil spills, will take place on the site. Minor spills which may occur occasionally will be neutralised by soil processes. B&J Catalano have a Safety Practice document for Hydrocarbon Spill Response outlining their procedures for controlling, recovering, treating and reporting hydrocarbon spills (Annexure 1).

6.4 MONITORING AND MANAGEMENT MEASURES

During the extraction and early rehabilitation phase, the pit will be inspected after every significant rainfall event to check erosion damage. If any repairs are required, this will be attended to immediately.

After pit closure and rehabilitation, monitoring of rehabilitated areas will ensure that any areas requiring remedial work are identified. Monitoring will be carried out on an annual basis to assess:

- The physical stability of the landform in the rehabilitated areas.
- The success of the planted vegetation.
- The emergence of weeds.

Monitoring will continue until the completion criteria have been fulfilled. Maintenance procedures will be carried out where necessary and may include:

- Repair of any erosion damage.
- Replanting/seeding areas that may not have regenerated.
- Weed control.

7. ACID SULFATE SOILS

A search of the CSIRO's Australian Soil Resource Information System (ASRIS) database identified the probability acid sulfate soils occurring within the proposed EIL area as extremely low/confidence unknown (CSIRO, 2020).

A low probability of ASS within the EIL area is likely because the material to be excavated is deep Spearwood sands with rapid drainage characteristics. There are no remnant swampy sediments within the extraction area where acid sulphate soils might be exposed or activated as a result of the proposed extraction activities. The extraction will remain above the water table at all times.

8. REFERENCES

Bureau of Meteorology (BoM) (2019a). Rainfall records for Roelands (Station 9657). Website: www.bom.gov.au. Accessed January 2020.

Bureau of Meteorology (BoM) (2020b). Rainfall frequency information. Website: www.bom.gov.au. Accessed January 2020.

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9. ATTACHMENTS

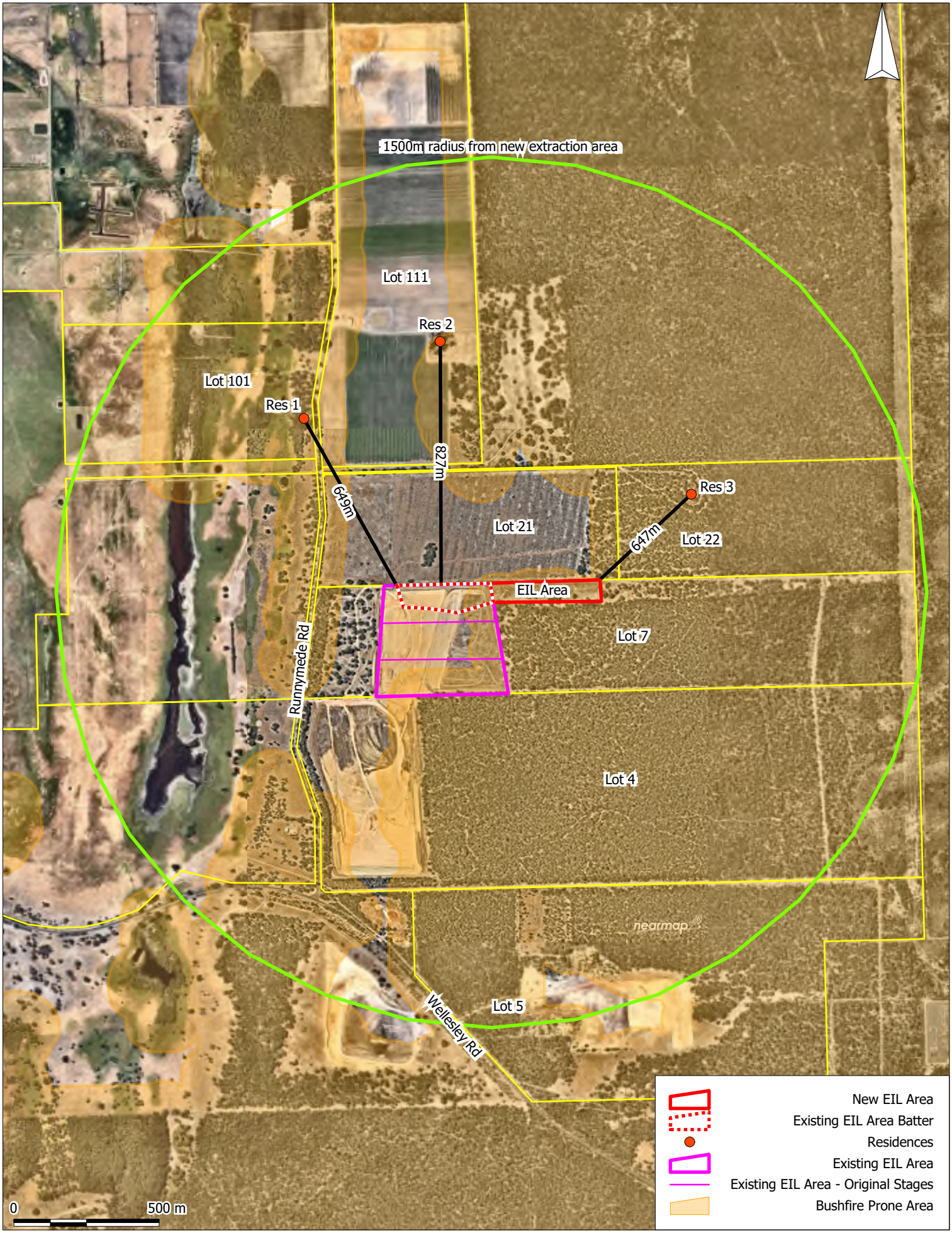
FIGURES

Figure 1 Site and Surrounds
Figure 2 Regional Groundwater Contours Oct 2017

ANNEXURES

Annexure 1 Hydrocarbon Spill Management Plan

FIGURES

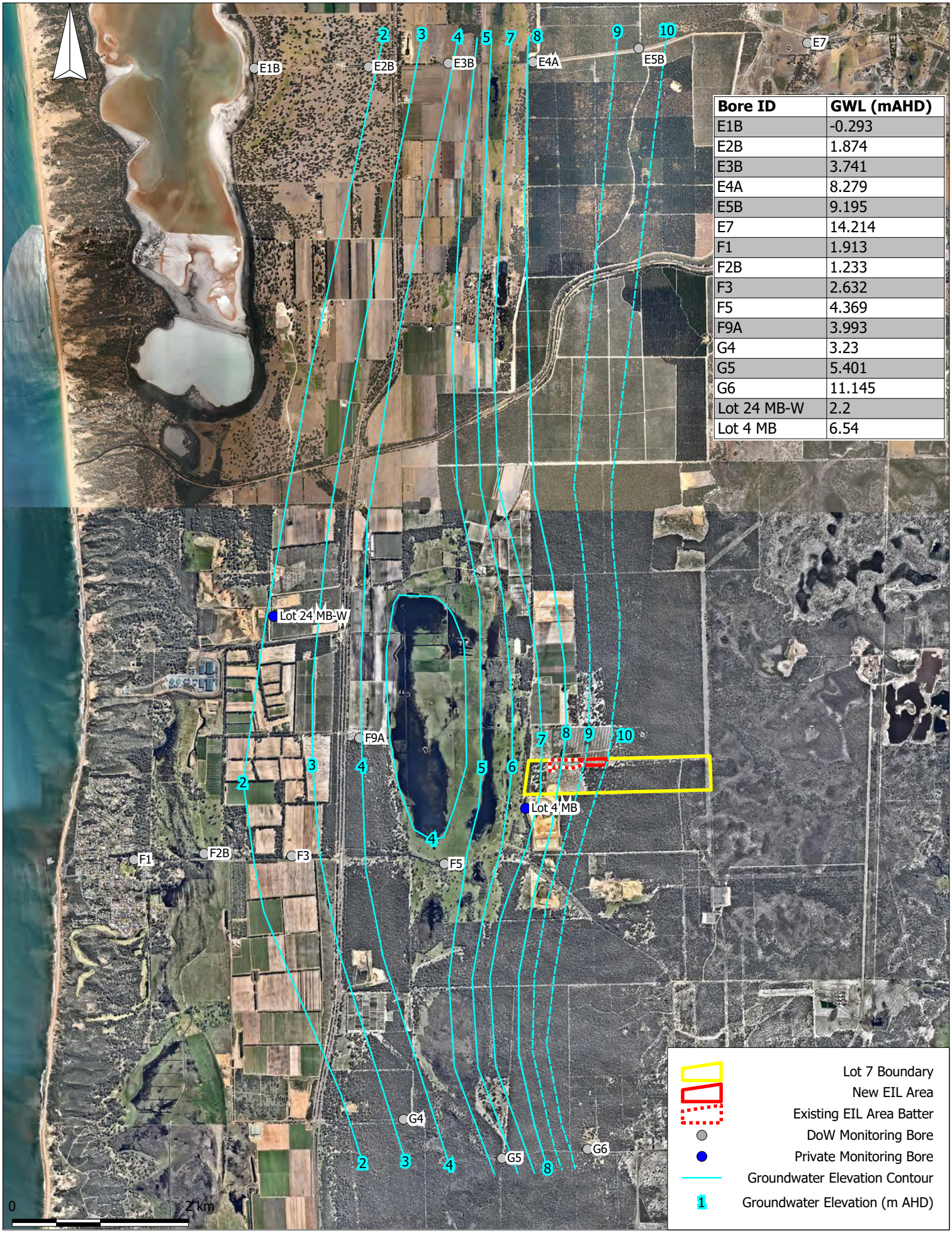


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Scale: 1:16000
Original Size: A4
Air Photo Source: Nearmap Dec 2019
Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Sand Extraction
Location: Lot 7 Runnymede Rd Wellesley

Figure 1: Site and Surrounds



Bore ID	GWL (mAHD)
E1B	-0.293
E2B	1.874
E3B	3.741
E4A	8.279
E5B	9.195
E7	14.214
F1	1.913
F2B	1.233
F3	2.632
F5	4.369
F9A	3.993
G4	3.23
G5	5.401
G6	11.145
Lot 24 MB-W	2.2
Lot 4 MB	6.54

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Scale: 1:54000
Original Size: A4
Air Photo Source: Nearmap Aug 2017
Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano

Project: Sand Extraction

Location: Lot 7 Runnymede Road Wellesley

Figure 2:
Regional Groundwater Contours Oct 2017

ANNEXURE 1

Hydrocarbon Spill Management Plan

Safety Practice

SAF-SP-029 HYDROCARBON SPILL RESPONSE

PURPOSE

This procedure summarises the safety practice of B & J Catalano to control the personal and environmental hazard posed by hydrocarbon spills. It outlines the correct procedure for controlling, recovering and reporting hydrocarbon spills to ensure compliance with West Australian legislative requirements.

SCOPE

This safety practice will apply to all B & J Catalano areas and employees.

DEFINITIONS

MSDS: Material Safety Data Sheet - A document which describes the properties and use of a substance, i.e., its identity, chemical and physical properties, health hazard information, precautions for use and safe handling information.

Hydrocarbon: An organic compound containing only carbon and hydrogen including diesel, oil, petrol, grease, solvent-based degreasers, hydraulic fluids and transformer oils.

Hydrocarbon Spill: Any uncontrolled release of hdyrocarbon products.

Bund: An embankment or wall that may form part or the entire perimeter of a compound. Usually made of concrete, bunds are placed around storage tanks to contain spills.

INFORMATION

Under the general and specific provision of duty of care an employer shall, so far as is practicable, provide and maintain a working environment in which his employees are not exposed to hazards existing in the workplace. This requirement includes the hazards associated with hydrocarbons spills.

It is the responsibility of ALL employees and contractors to manage hydrocarbon spills as they occur. Supervisors are accountable if their immediate areas are found to have poor hydrocarbon management practices (this includes the clean-up of minor spills).

Spills involving hydrocarbons have the potential to produce adverse consequences to human health and/or the environment. Environmental spills can lead to contamination of water (both surface and aquifers), soil and habitats. The effect is higher closure costs, loss of a potable resource, death of flora and fauna, requirement for remediation, classification into Western Australia's Contaminated Sites database and prosecution by the Department of Environment and Conservation (DEC).

This safety practise outlines:

- Action required when a spill is identified
- Techniques to restrict the extent of the contamination
- Techniques to collect spilled material
- Techniques to collect and dispose of contaminated material
- Techniques to treat soils contaminated by hydrocarbon
- Reporting requirements in regard to hydrocarbon spills

REQUIREMENTS

1 Action required when a spill is identified

1.1 Isolate the spill area

1.2 Identify the spilt substance

1.3 Identify hazards and PPE requirements – consult the appropriate MSDS.

1.4 If safe to do so, the source of the spill should be restricted or stopped (i.e. shutdown machinery, switch off pumps, close valves).

1.5 If suitable equipment is readily available and can be operated in a safe manner, the extent of the spill is to be contained.

1.6 Contact immediate Supervisor as soon as possible and advise of spill.

2 Techniques to restrict the extent of the contamination

2.1 If possible restrict the source of the spill to ensure the flow of hydrocarbon is stopped.

2.2 If the spill is occurring outside a containment bund, use earthmoving equipment to construct additional earthen bunds to contain the extent of the flow.

2.3 Isolate drains.

2.4 On advice of Environmental Department, pump source material from either or both of the source container or the bunded containment into a safe container.

3 Techniques to collect spilled hydrocarbon

3.1 On advice of Environmental Department, pump source material from either or both of the source container or the bunded containment into a safe container.

3.2 Use absorbent materials to soak up residual hydrocarbon.

3.3 If the spill occurs in an area where a water body has become contaminated, use mini air booms to contain the spread of hydrocarbon on the surface of the water.

3.4 Use a skimmer to collect contained hydrocarbon in a triple oil separator or retain on the surface of the water body and pump to a waste oil tank or other safe container.

3.5 Hydrocarbon absorbents are to be collected and disposed of as decided by the Environmental Department and according to site requirements.

4 Techniques to treat soils contaminated by hydrocarbon

4.1 Dependent on site requirements and on advice from the Environmental Department, contaminated soils may be treated in the following ways:

- Collected and disposed of
- Encapsulated in the waste dump
- Collected or remain in situ and treated by bioremediation to breakdown the hydrocarbon.

4.2 On completion of the rehabilitation program the Environmental Department must inspect and verify that the spill has been successfully remediated.

5 Reporting requirements in regard to hydrocarbon spills

5.1 All incidents of hydrocarbon spills are to be reported to the immediate Supervisor as soon as possible and followed up with the completion of the B&J Catalano Incident Report Form which requires an incident investigation to determine root cause and assists in the prevention of a reoccurrence.

5.2.1 The immediate Supervisor must then report the incident to the Environmental Department to determine what reporting to external departments is required i.e. Department of Conservation.

Table 1: Suggested Spill Equipment

Type of Spill	Recommended Spill Equipment
Spill on rocks / dirt	• Use earthen bunds or booms to contain spill • Polypropylene pads to mop up excess oil at the outset • Global Peat or Enretec to treat contaminated soil in-situ
Spill on concrete / hardstand area e.g. workshop	• Polypropylene pads (easiest and quickest) • Floorsorb / kitty litter if pads not available (this must be swept up and disposed of in hydrocarbon bins immediately, as these products are not hydrophobic and will not contain the spill if they become wet)
Spill in containment bund	• Polypropylene pads or pillows • Bund can be drained or sucked out to waste oil receptacle if the spill is large
Spill occurs when raining or on a water body	• Polypropylene pads

RELATED DOCUMENTS

a. B&J Catalano Incident Report Form

REFERENCES

a. Occupational Safety and Health Act (WA) 1984
b. Occupational Safety and Health Regulations (WA) 1996
c. Mines Safety and Inspections Act (WA) 1994
d. Mines Safety and Inspections Regulations (WA) 1995
e. Environmental Protection Act 1986
f. Environmental Protection (Unauthorised Discharges) Regulations 2004
g. AS 1940 : 2004 Storage and handling of flammable and combustible liquids

DOCUMENT CONTROL

Approval		
Role	**Name**	**Date**
General Manager	Nunzio Giunta	Sept 2011
HSE/HR Manager	Doriann Walls	Sept 2011

Revision Events			
Rev.	**Author**	**Changes**	**Date**
1.0	Nic Henley		May 2011
2.0	Ian Prosser	Definitions / Table 1	March 2012

APPENDIX 5

DUST MANAGEMENT PLAN

LUNDSTROM ENVIRONMENTAL CONSULTANTS Pty Ltd

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DUST MANAGEMENT PLAN

Prepared for B&J Catalano Pty Ltd
For Lot 7 Runnymede Road, Wellesley
Shire of Harvey

1. INTRODUCTION

This Dust Management Plan (DMP) has been prepared in accordance with guidelines published by the Department of Environment and Conservation (DEC) (2011), now the Department of Water and Environmental Regulation (DWER) "A guideline for managing the impacts of dust and associated contaminants from land development sites, contaminated sites remediation and other related activities". This DMP should be read in conjunction with the report entitled "Extractive Industries Licence Application & Environmental Management Plan (EMP), Lot 7 on Diagram 40591 Runnymede Road, Wellesley, prepared for B&J Catalano, March 2020".

The objectives of this DMP are as follows:

- To describe the nature of the proposed operation
- To identify any sources of dust that might arise from these operations
- To identify the proximity of any sensitive premises in this regard
- To identify measures that will limit the generation of dust from the operations
- To identify measures that will limit the impact of dust on sensitive premises

2. SITE BACKGROUND

2.1 Locality

Lot 7 Runnymede Road, Wellesley, Shire of Harvey.

2.2 Ownership

B, C & S Catalano

2.3 Land Use

The property has historically been used for the grazing of livestock and for quarrying.
Figure 1 illustrates the land use of the property and its immediate surrounds

2.4 Geology and Soils

The property is covered by grey and yellow sands of the Spearwood System comprising mainly dunes and dune ridges. The sand reaches a maximum thickness of 18 meters and is underlain by sandy clays of the Guildford Formation and limestones of the Tamala Formation.

The topsoil is approximately 500mm thick and comprises mainly fine to medium sand.

Particle size distribution test results in Annexure 1 show that the sand has the following texture:

Coarse, medium and fine sand:	98%
Silt:	2%
Clay:	0%

Although there will be some uplift of the finer particle component of this soil during stripping and stockpiling operations, this will be limited due to the low proportion of fines. During strong winds the potential exists for fine particles to become airborne especially when they are disturbed by excavation activities and further discussion on mitigation measures in this regard is contained in section 4 below.

2.5 Potentially Sensitive Receptors

2.5.1 Residential Dwellings

The positions of closest residential dwellings are shown on Figure 1 with details listed in Table 1.

Table 1: Residential Dwellings within 1500m of the Site

Reference No. (Figure 1)	Lot No.	Occupants Name	Distance to closest area of proposed pit (meters)
Res 1	101	G.P. Reading	649
Res 2	111	P. W Ivankovich – listed as owner but not sure if occupier	827
Res 3	22	LandCorp	647

2.6 Prevailing Winds

As winds are strongest in this area in the afternoon, data has been extracted for this time. The wind speed and direction data utilised is from the Bunbury weather station, within 20km of the site. These data show that prevailing winds are predominately from the west with occasional winds from the south-west and north-west. Winds from the north, south and east occur less than 10% of the time (Bureau of Meteorology 2016).

3. PROPOSED WORKS AND POTENTIAL IMPACTS

B&J Catalano propose to extract a total of approximately 160,000m^3 of sand from two additional areas; an area of 1.97ha immediately to the east of the existing pit (~70,000m^3) and the northern batter of the existing pit adjoining Lot 21 (~90,000m^3) as shown in Figure 1.

It is estimated that the existing approved resource (15.61ha) has 80,000m^3 remaining. The additional resource created by this application will thus make a total available resource from this site of approximately 240,000m^3. Annual extraction will be approximately 50,000m^3 per annum, this may vary depending on the demand for sand.

It is intended to rehabilitate 2.61ha to native vegetation and the remainder of the disturbed area back to pastures. Table 2 provides a description of all activities, their duration, aspect and an assessment of potential for dust impacts.

Table 2: Aspects and Impacts of Dust Generating Activities

Activity	Duration	Aspect	Impact
Topsoil Stripping and stockpiling of new EIL area and remainder of existing pit.	2 weeks in 2021	Disturbance of grass and soil exposes ground to wind erosion	Dust may create an amenity issue with nearby residents
Rehabilitation (including existing pit)	1 week per annum over 5 year period	Disturbance of topsoil could release dust into the atmosphere	Dust may create an amenity issue with nearby residents
Loading of trucks from workface	4 years at an average of 16 trucks per day	Loading of sand may release dust into the atmosphere	Fine dust may create an amenity issue with nearby residents
Transport of sand from site	4 years	Dust could escape from the truck in transit	Amenity, health or traffic safety issue

3.1 Plant and Equipment to be used

The list of Equipment to be used is as follows:

Caterpillar 980 and 950 front end loaders
Finlay Screen 693
Striker 25m Stacker
Caterpillar generator set

3.2 Summary of Mining Actions

The following Table outlines the proposed mining actions:

Table 3: Stages of the Mining Operation

Stage	Action	2017	2018	2019	2020	2021	2022	2023	2024	2025
PAST OPERATIONS										
1	Remove topsoil and stockpile									
1	Extract sand by loader & truck									
2	Remove topsoil and stockpile									
2	Extract sand by loader & truck									
3	Remove topsoil and stockpile									
3	Extract sand by loader & truck									
1	Rehabilitate Stage 1									
2	Rehabilitate Stage 2									
3	Rehabilitate Stage 3									
Infill planting	2.28ha native vegetation									
Revegetation	2.61ha native vegetation									
PROPOSED OPERATIONS										
New Extraction Area and Existing Pit Batter	Clearing of approx. 10 trees									
	Remove topsoil and stockpile									
	Extract sand by loader & truck									
	Rehabilitate									

3.3 Site Risk Assessment and Classification

The site risk assessment is based on the format provided in Appendix 1 of the DEC guideline document "A guideline for managing the impacts of dust and associated contaminants from land development sites, contaminated sites remediation and other related activities" (March 2011) referred to in Section 1 of this DMP. Based on the risk assessment conducted the classification derived is "low risk". Measures for managing dust impacts are discussed in Section 4 below.

4. Measures Proposed for Managing Dust

This report has identified the potential dust generating activities associated with the proposed development and has also identified the potentially sensitive receptors. The measures that are proposed to manage dust impacts are listed below:

- A 15kl water cart will be on site during all periods when earth is being moved or screening is being conducted. If dust is generated during these periods, the water cart will be employed to damp down the areas of concern.

- If the wind is blowing strongly from the south in the direction of the closest residences and conditions are dusty, operations will be stopped until such time as adequate wetting down has occurred.

- A polymer-based spray-on soil stabilizer will be applied to topsoil and overburden stockpiles if they do not stabilize by crusting and grass regrowth.

- Truck loads will always be covered so that no dust is generated in transit.

- A complaints system will be put in place and these will be recorded by the Quarry Manager and acted on promptly.

- A notice will be erected at the front gate and this will provide emergency contact details for the Quarry Manager.

5. REFERENCES

Bureau of Meteorology. Wind data for Bunbury 1995-2010 (Accessed from www.bom.gov.au November 2016)

Department of Environment and Conservation, 2011. A guideline for managing the impacts of dust and associated contaminants from land development sites, contaminated sites remediation and other related activities.

6. ATTACHMENTS

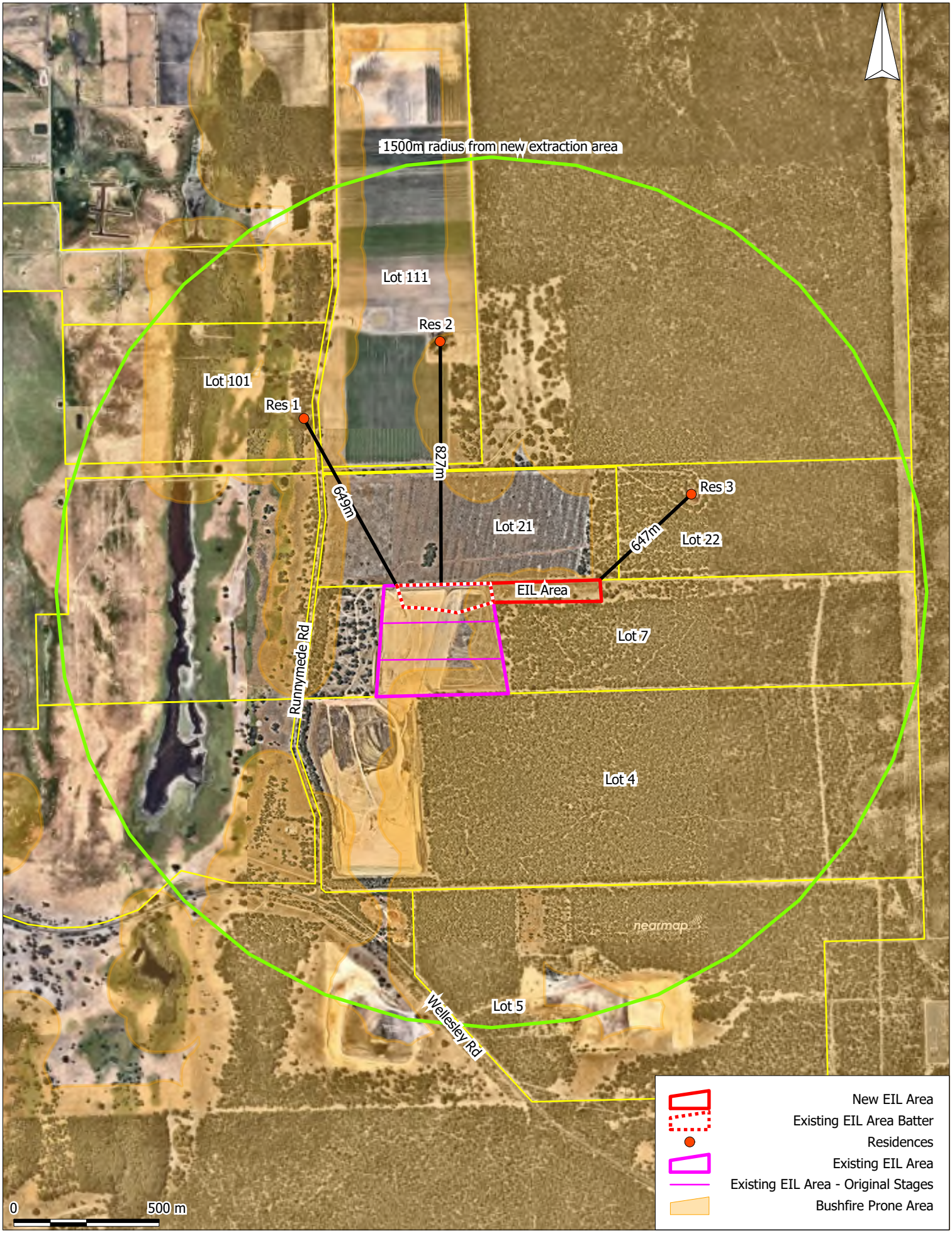
FIGURES

Figure 1 Site and Surrounds

ANNEXURES

Annexure 1 Particle Size Distribution Test

FIGURES



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Scale: 1:16000
Original Size: A4
Air Photo Source: Nearmap Dec 2019
Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Sand Extraction
Location: Lot 7 Runnymede Rd Wellesley

Figure 1: Site and Surrounds

ANNEXURE 1

Particle Size Distribution Test

ANNEXURE 1

GEOTECH
Geotech Materials Testing Services, ABN: 48 137 480 034
Karemmi Pty. Ltd. ABN: 94 078 149 425
51-55 Forrest Avenue, Bunbury 6230 WA
Telephone: (08) 9721 6255 Facsimile: (08) 9721 6455
Email: quality@geotechsoil.com.au

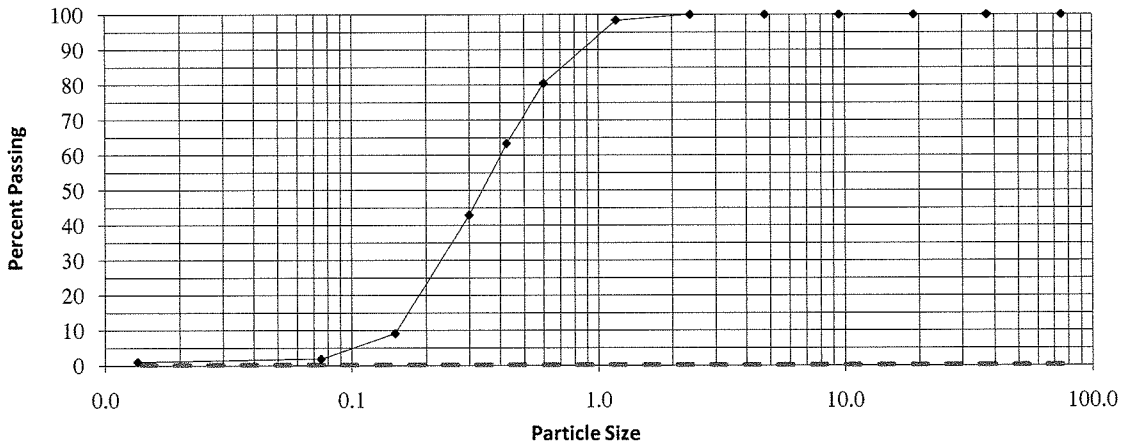
Bunbury Base Lab
NATA SR#5029
13a Leichardt Street, Bunbury WA 6230
(08) 9725 6034
bunburylab1@geotechsoil.com.au

TEST CERTIFICATE
PARTICLE SIZE DISTRIBUTION
TEST METHOD - WA 115.1

Sample No: BBY-4831-1 **Date Tested:** 4831-1
Tested By: J.Perkins, J.Perkins

Client: B&J Catalano Pty Ltd
Project: Sand Compliance
Project Location: Runnymede Pit R-1
Material Description: Sand
Sampled By: Client Sample date: -
Sampling Method: Sampled by client. Sample prepared in accordance with WA 105.1.
Field Site #: 1 Chainage: - Offset: - Offset from: -

Particle Size Distribution



Sieve Size (mm)	Percent Passing
75.0	100
37.5	100
19.0	100
9.5	100
4.75	100
2.36	100
1.18	98
0.600	80
0.425	63
0.300	43
0.150	9
0.075	2
0.0135	1

Largest sieve size used: 75.0 Percent Retained 0

Note(s): This document is issued in accordance with NATA's accreditation requirements.
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Approved Signatory: _____ **Date:** 22-Mar-11
S.McMahon

(c) Geotech

GEOTECH
Geotech Materials Testing Services, ABN: 48 137 480 034
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TEST CERTIFICATE
TEST FOR LINEAR SHRINKAGE
TEST METHOD - WA 123.1

Lab Prefix:	BBY		**Date Tested:** 18-Mar-11
Sample No:	**4831-2**		**Tested By:** H.Dellaca
Client:	B&J Catalano Pty Ltd		Test Request: –
Project:	Sand Compliance		
Project Location:	Runnymede Pit R-1		
Material Description:	Sand		
Sampled By:	Client		Sample date: –
Sampling Method:	Sample supplied by Client, and prepared in accordance with WA 105.1.		
Field Site #:	1 Chainage: –	Offset: –	Offset from: –

(WA 123.1)

Linear Shrinkage (%): **0.0**

Specimen Condition: Normal

Sample Preparation: Oven Dried
Dry Sieved

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Approved Signatory: _____ **Date:** 22-Mar-11
S.McMahon

(c) Geotech

APPENDIX 6

DIEBACK MANAGEMENT PLAN

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DIEBACK MANAGEMENT PLAN
Prepared for B & J Catalano Pty Ltd
Lot 7 Runnymede Road, Wellesley
Shire of Harvey

1. INTRODUCTION

The purpose of this Dieback Management Plan (DMP) is to describe the measures that will be taken to limit the risk of spread of Dieback disease as a result of sand extraction on Lot 7 Runnymede Road, Wellesley. This DMP should be read in conjunction with the report entitled "*Extractive Industries Licence Application and Environmental Management (EMP), Lot 7 on Diagram 40591 Runnymede Road, Wellesley, March 2020*" prepared for B & J Catalano Pty Ltd by Lundstrom Environmental Consultants Pty Ltd.

2. SITE BACKGROUND

2.1 Property Description, Ownership and Locality

Locality:	Lot 7 on Diagram 40591 (Runnymede Road, Wellesley, Shire of Harvey)
Ownership:	B, C & S Catalano

The property is located approximately 2km to the east of Forrest Hwy, 23km north of Bunbury.

2.1 Land Use

The property is currently used for sand extraction. Lot 4 adjoining it to the south is also operated by B&J Catalano for sand extraction. Main Roads proposes to establish a sand quarry on Lot 21 adjoining the property to the north. Other properties surrounding the proposed operation are mainly used for grazing.

Figure 1 shows the land use of the property and its immediate surrounds.

2.2 Geology and Soils

The entire property is covered by grey and yellow sands of the Spearwood System comprising mainly dunes and dune ridges. The sand reaches a maximum thickness of 20 metres and is underlain by sandy clays of the Guildford Formation and limestone of the Tamala Formation.

2.3 Vegetation

The eastern half of the property is located in an area mapped as Heddle Vegetation Complex - Bassendean Complex-Central and South. It is described as vegetation ranging from woodland of *Eucalyptus marginata* (jarrah) – *Allocasuarina fraseriana* (sheoak) – *Banksia spp*. to low woodland of *Melaleuca spp.* and sedgelands on the moister sites. (WALGA 2020).

The middle of the property lies in an area mapped as Karrakatta Complex-Central and South. It is described as predominantly open forest of *E. gomphocephala – E. marginata- E. calophylla* (tuart-jarrah-marri) and woodland of *E. marginata – Banksia spp.* (WALGA 2020).

The proposed new EIL area comprises mostly of pasture grasses and is cleared of native vegetation except for approximately 10 trees for which a clearing permit has been applied. No other native vegetation will require clearing.

3. PROPOSED WORKS

B&J Catalano propose to extract a total of approximately 160,000m3 of sand from two additional areas; an area of 1.97ha immediately to the east of the existing pit (~70,000m3) and the northern batter of the existing pit adjoining Lot 21 (~90,000m3) as shown in Figure 1.

It is estimated that the existing approved resource (15.61ha) has 80,000m3 remaining. The additional resource created by this application will thus make a total available resource from this site of approximately 240,000m3. Annual extraction will be approximately 50,000m3 per annum, this may vary depending on the demand for sand.

It is intended to rehabilitate 2.61ha to native vegetation and the remainder of the disturbed area back to pastures.

Proposed mining actions are as follows:

- The active area will be stripped of topsoil, which will be placed in stockpiles within the extraction area.
- Within the active cell sand will be excavated using a front-end loader and bulldozer. Trucks will enter the pit from via Runnymede Road to be loaded from the stockpile by a front-end loader.
- It is anticipated that excavation beneath the old EIL batter will proceed until a level of 9.0 m AHD has been reached so it is level with the existing pit.
- The depth of the excavation within the new EIL area is constrained by the fact that the entire area needs to serve as a batter to the Main Roads pit on Lot 21. Excavation will only proceed until a minimum of 16 m AHD is reached in the north western corner. The final landsurface will slope upwards to the north eastern corner which will have final of elevation of 33 m AHD.
- Batters of 1:6 (vertical: horizontal) will be achieved at the completion of landsurface rehabilitation.

4. DIEBACK STATUS OF THE AREA

Dieback mapping has not been undertaken for the site. No obvious signs of dieback infestation were observed in the uncleared vegetation surrounding the proposed extraction area. Since the majority of the area within which the extraction is to be undertaken has been completely cleared, the status of this area could not readily be ascertained. On the basis of this, the site should be classified as uninterpretable and managed as such.

Guidelines for the management of the pit and the movement of vehicles in and out of the pit are contained in the Dieback Working Group guideline document (Dieback Working Group 2010).

4.1. Proposed Dieback Management Measures

The following management measures will be put in place to minimise future spread of dieback:

- The property will be fenced at all times.
- Access to the property will be via a single entrance gate.
- All machinery, trucks and other vehicles will arrive in a clean condition free of soil and organic matter that may contain dieback fungus.
- Any soil and plant material brought to the site for rehabilitation purposes should be from dieback free sources.
- The site will not be worked during wet periods.
- Employees and contractors working on the site will be informed of the purpose of the above measures and their responsibilities in relation to dieback prevention.

At the entrance to the property, a gate is installed and will be sign-posted: “CLEAN ON ENTRY, NO UNAUTHORISED ENTRY”, Vehicles must be free of soil before passing beyond this point”. All B & J Catalano vehicles will be cleaned down at their depot in Brunswick Junction before entering this property for the first time, after leaving another pit. Any outside contractors coming in will have to ensure that their vehicles are cleaned off-site.

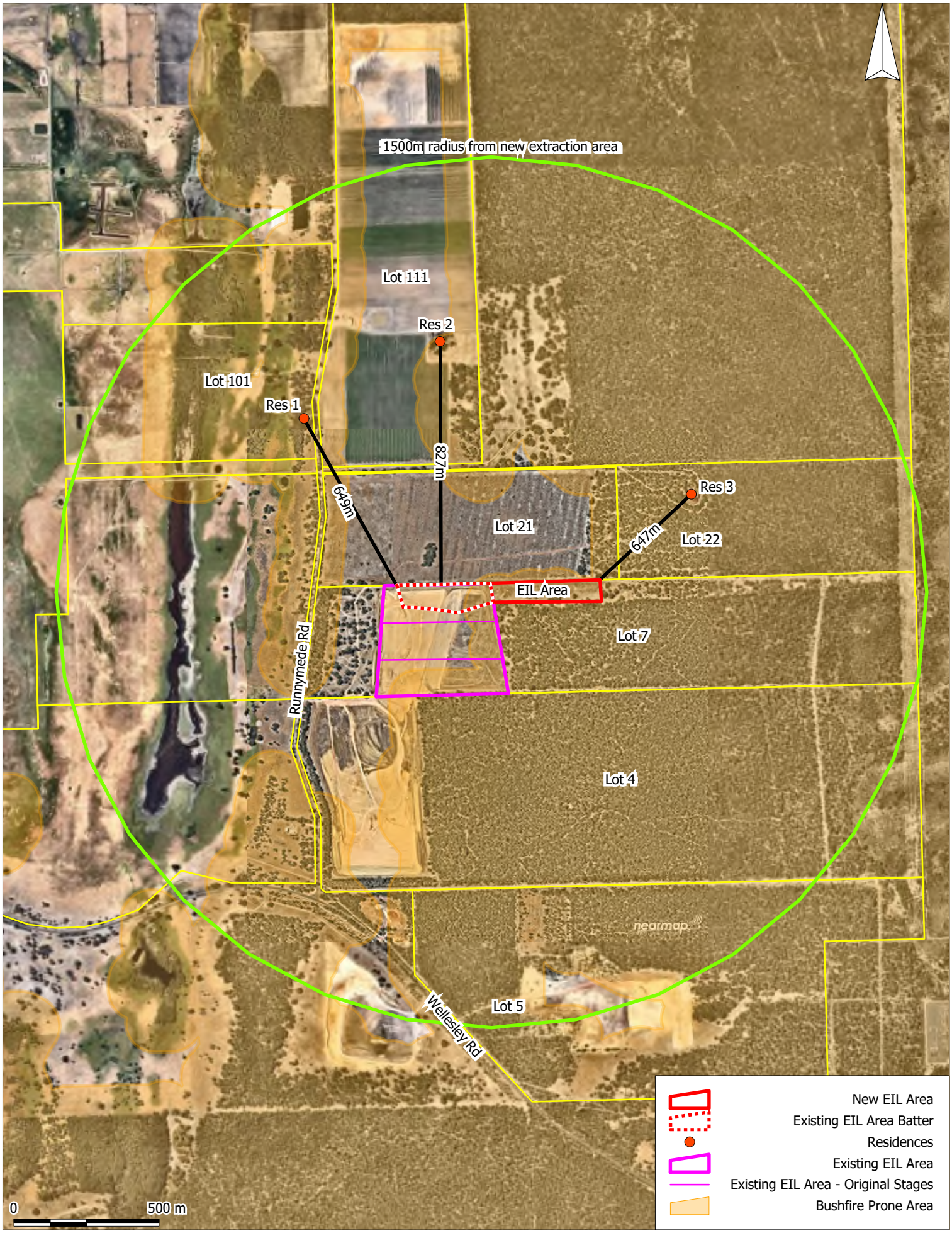
An information brochure explaining dieback management guidelines is handed out to all new customers of B & J Catalano. This information brochure states that the extracted material is considered to be ‘uninterpretable’ and may therefore contain *Phytophthora* Dieback and that the extracted material should not be used in areas adjoining any vegetation which is known to be susceptible to *Phytophthora* Dieback. It also includes a list of vegetation that are potentially susceptible to *Phytophthora* dieback. The information brochure is contained in Annexure 1.

6. REFERENCES

Dieback Working Group (2010). Management of *Phytophthora* Dieback in Extractive Industries. Best Practice Guidelines. Available on www.dec.wa.gov.au

WALGA (2020). Environmental Planning Tool (EPT). [Online], http://lbp.asn.au/index_public.html. Accessed January 2020.

FIGURES



Lundstrom Environmental Consultants Pty Ltd
Leeming WA 6149
Mob: 0417934863
mikelund1@bigpond.com

Scale: 1:16000
Original Size: A4
Air Photo Source: Nearmap Dec 2019
Datum: GDA94
Projection: Australia MGA94 (50)

Client: B & J Catalano
Project: Sand Extraction
Location: Lot 7 Runnymede Rd Wellesley

Figure 1: Site and Surrounds

ANNEXURE 1

Dieback Information Brochure

PHYTOPHTHERA DIEBACK AND EXTRACTIVE INDUSTRIES INFORMATION BROCHURE

for

B&J Catalano

Staff, Customers and Clients

What is *Phytophthora* (*cinnamomi)* Dieback?

Phytophthora dieback is a soil-borne fungal pathogen that kills a wide range of plant species in the southwest of WA by destroying their root systems. There are over fifty species of *Phytophthora* that occur worldwide. Although most *Phytophthora* species can cause plant disease, *Phytophthora cinnamomi* is the most frequently isolated *Phytophthora* species from native plant communities in WA' south west.

Impact of *Phytophthora* Dieback

Phytophthora Dieback occurs in all Southern Australian States and has had a significant impact on the biodiversity of native plants and animals from WA. It sometimes occurs in the nursery, mining, and forestry industries in WA.

According to CALM (2003), a conservative estimate places approximately 15-20% of the Jarrah forest as infested by *Phytophthora cinnamomi*. Furthermore, approximately 60% of the shrubland, *Banksia* woodland and Mallee woodland in the Stirling Range National Park are infected by the pathogen. Similarly, 70% of the *Shannon* and *D'Entrecasteaux.* National Parks are also affected by *Phytophthora cinnamomi.*

Managing *Phytophthora* Dieback

The movement of large volumes of soil is a significant risk in terms of spreading *Phytophthora cinnamomi*. The extractive industry has the opportunity to reduce the rate of spread of *Phytophthora cinnamomi* by taking steps to minimise the accidental spread of the pathogen, with extraction in the >400 mm rainfall zone at greatest risk of spreading the pathogen.

In particular, operations occurring near native plant communities dominated with *Banksia* species and other Proteaceae may be at high risk. Different types of extracted materials have their different levels of inherent risk with regards to the likelihood of being infested with *Phytophthora* Dieback and therefore these differences need to be taken into account. For example, sand and gravel which carries organic matter or topsoil can be infested *with Phytophthora*, whereas limestone and hard rock are normally always dieback free.





Plants Susceptible to *Phytophthora* Dieback

Banksias, Adenanthos and other Proteaceae*, Grass Trees (Xanthorrhoea), Lomandra, Hibbertia, Dasypogon, Patersonia,* Jarrah *(Eucalyptus marginata)* are highly susceptible to Phytophthora impacts, as are 2,300 native plant and some exotic plants (Shearer 2004). The Dieback Working Group site provides a list of susceptible species. On the other hand species such as Marri *(Corymbia calophylla)* are not affected.

Disturbed native vegetation, farmland, urban and other similar areas are not normally able to be assessed for *Phytophthora.*

Should you have concerns with the use of particular gravels next to or high quality native vegetation please contact B & J Catalano for further advice or view https://www.dwg.org.au.

Best Practice Management Techniques

are described by the Dieback Working Group[1] and these are used by B & J Catalano to minimise the risk of their operations in acting as a vector for the transfer of the pathogen. The techniques described in this document are by no means all- encompassing but provide a summary.

B & J Catalano choose resources that are elevated, dieback free or have species not favoured by *Phytophthora* such as blue gum plantations and pasture, where best practice is possible. Resources are extracted, processed managed and tested to provide the lowest possible *Phytophthora* Risk.



Summary of Best Practice

Guidelines for a site entirely infested with *Phytophthora* Dieback

- Entirely dieback infested sites are only used to supply to similarly infested sites.

Guidelines for *Phytophthora* free, excluded from assessment or partially impacted sites.

- Training of staff on Phytophthora Dieback and management.
- No unauthorised entry is permitted.
- Vehicles must be “clean on entry”
- Areas are identified as follows:
  - Extraction and processing areas
  - Roads, including haul roads
  - Turn around points
  - Hygiene – quarantine points
  - Storage and stockpile areas
  - Water sources
- Surface water is contained on site.
- Stockpile areas are hard and well drained.
- All vehicles are clean on exit.
- The site and activities are secured by fencing, Signage, training and other methods.
- Separate excavation and loading areas.
- Signs illustrate the status and measures required are used as applicable.
- Dieback free water is used.
- Customers are notified of the Dieback status of the site and the resource.
- Stockpiles are regularly checked for organic matter or topsoil contamination.
- Product is regularly tested for *Phytophthora.*

B&J Catalano

South Western Highway Brunswick 6224
PH: 08 9726 8120
admin@catalano.com.au

ISO 14001 certified Equal Assurance · ISO 9001 certified Equal Assurance · AS 4801 certified Equal Assurance · JAS-ANZ

INFORMATION FOR THIS BROCHURE HAS BEEN OBTAINED FROM:

[1]Dieback Working Group, 2019. Management of *Phytophthora* Dieback in Extractive Industries.

Annexure SGA3

Application Plan & Refusal Notice
for the Stage 4 Extension

SHIRE OF HARVEY

A Breath of Fresh Air

FILE NO: A2628/EX/004
DOC NO: 20/34909
APPLIC NO: P227/20

2 December 2021

B & J CATALANO PTY LTD
SOUTH WESTERN HIGHWAY
BRUNSWICK JUNCTION WA 6224

ATT: Peter Bennett

Dear Peter,

Proposed EXTRACTIVE INDUSTRY (SAND) [EX/004] - Lot 4 RUNNYMEDE ROAD, WELLESLEY

I refer to your Application for Development Approval dated 27/10/2020 for the proposed EXTRACTIVE INDUSTRY (SAND) [EX/004] at the above property address. Please be advised that, at its meeting held on Tuesday 23 November 2021, Council resolved to refuse the proposed Extractive Industry (Sand) [Ex/004], for the reasons attached.

If an applicant or owner is aggrieved by this determination, there is a right of review by the State Administrative Tribunal in accordance with the *Planning and Development Act 2005* Part 14. An application must be made within 28 days of the determination. Further information and review application forms can be obtained by contacting the State Administrative Tribunal on 08 9219 3111 or via their website www.sat.justice.wa.gov.au.

Should you have any queries or require additional information please do not hesitate to contact Neville Dowling, Planning Officer on 9729 0312 or via email nevilled@harvey.wa.gov.au

Kind Regards,

Elizabeth Edwards
Manager Planning Services

Planning and Development Act 2005

SHIRE OF HARVEY
District Planning Scheme No. 1

Notice of determination on application for development approval

Location: 0 RUNNYMEDE ROAD WELLESLEY 6233

Lot:	4	Plan/Diagram:	P005888
Vol. No:	1942	Folio No:	426
Application date:	12/10/2020	Received on:	27/10/2021

Description of proposed development: EXTRACTIVE INDUSTRY (SAND) [EX/004]

The application for development approval is:

☒ Refused for the following reason(s):

That Council refuses the Application for Development Approval for Sand Extraction on Lot 4 Runnymede Road, Wellesley, as the proposal is contrary to the following provisions of Clause 67(2) of the Planning and Development (Local Planning Schemes) Regulations 2015:

a) Does not protect and preserve the more important natural flora and fauna habitats and is therefore, contrary to Clause 67(2)(a) and Clause 1.6.1(g) of the Shire of Harvey District Planning Scheme No. 1;

b) Does not:

i) protect, conserve, and enhance the natural environment;

ii) ensure the retention and protection of rural land for biodiversity protection;

iii) protect valued landscapes;

iv) effectively manage environmental impacts;

v) manage and improve environmental and landscape attributes;

and is therefore contrary to Clause 67(2)(c) and the objectives and principles of State Planning Policies 2.0, 2.4 and 2.5;

c) Does not protect significant areas of remnant vegetation or balance the environmental and visual objectives and is therefore contrary to Clauses 67(2) (fa) and the Shire of Harvey's endorsed Local Planning Strategy;

d) Will have a significant effect on the natural environment and is therefore contrary to Clause 67(2)(o);

e) Does not make provision for the preservation of vegetation and is therefore contrary to Clause 67(2)(p); and

f) Has the potential to create irreversible damage to the land quality by creating the potential for erosion and loss of soil and is therefore contrary to Clause 67(2)(q).

Date of determination: 2 December 2021

Note 1: If an applicant or owner is aggrieved by this determination, there is a right of review by the State Administrative Tribunal in accordance with the *Planning and Development Act 2005* Part 14. An application must be made within 28 days of the determination.

Signed: .....

for and on behalf of the Shire of Harvey

Dated:

2 December 2021

SHIRE OF HARVEY
APPLICATION FOR DEVELOPMENT APPROVAL
REFUSED
Chief Executive Officer
2/12/21
Date

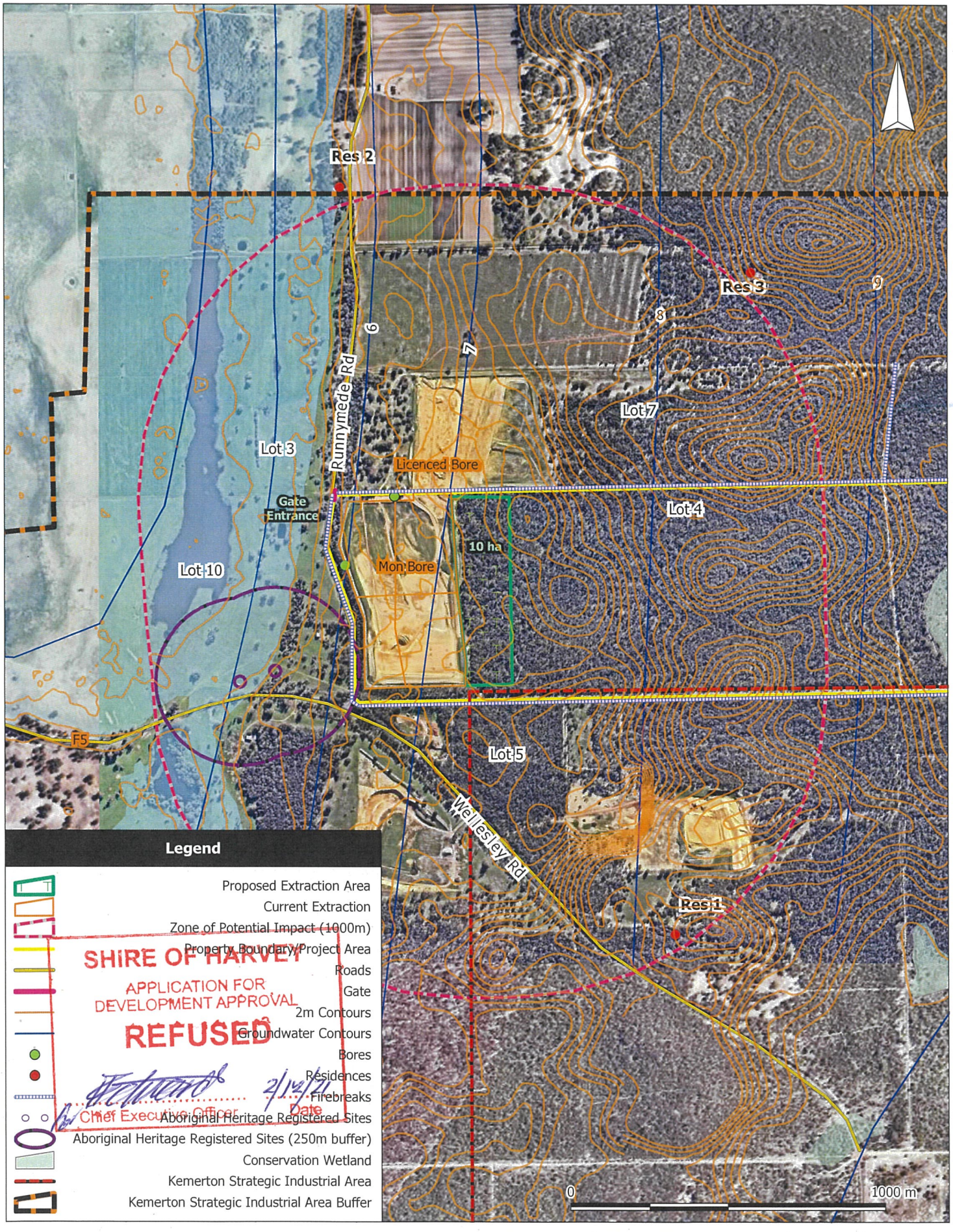


EXTRACTIVE INDUSTRY APPLICATION
&
ENVIRONMENTAL MANAGEMENT PLAN (EMP)

LOT 4 RUNNYMEDE ROAD
WELLESLEY, SHIRE OF HARVEY

B&J Catalano
South Western Highway
Brunswick Junction
W.A 6224
Ph: (08) 9726 8100
Fax (08) 9726 1575

October 2020



SHIRE OF HARVEY
APPLICATION FOR DEVELOPMENT APPROVAL
REFUSED
2/12/21
Chief Executive Officer
Date

Lundstrom Environmental Consultants Pty Ltd

21 Sellen Court, Leeming 6149
Mob: 0417934863
mikelund1@bigpond.com

Scale: 1:15000
Original Size: A4
Air Photo Date: Nearmap July 2020
Datum: Australian Geocentric 1994 (GDA94)

B & J Catalano
Lot 4 Runnymede Rd,
Wellesley
Sand Extraction

Figure 1

Site and Surrounds

Z:\Catalano\Runnymede Rd Lots 4 & 7_Wellesley_SoH_Sand\Lot 4 Runnymede Road\2020 EIL Application\Drawings\F2 site and surround.n

Annexure SGA4

BORR Plans & Details

MAIN ROADS WESTERN AUSTRALIA

APRIL 2019

Bunbury Outer Ring Road Fact Sheet

NORTHERN ALIGNMENT – CORRIDOR SELECTION

Main Roads is planning the long term vision for the Bunbury Outer Ring Road (BORR), a section of highway that will connect Forrest Highway directly to Bussell Highway. It will form an integral part of a future South West freeway network and create opportunities to provide social and economic benefits for Greater Bunbury and the South West Region.

Planning History

Main Roads initially developed the BORR concept in the early 1970s in consultation with state government departments and local authorities. The original concept linked the Australind Bypass (now known as Forrest Highway) to the north of Bunbury with Bussell Highway to the south of Bunbury. It was planned as a high standard four-lane divided rural highway. This work formed part of the Bunbury Region Plan (State Planning Commission 1987). The northern section of the BORR alignment was located west of the existing Hynes Road and has largely informed the corridor included in the Greater Bunbury Region Scheme (GBRS).

In 2012, following consultation with the Department of Planning Lands and Heritage, Main Roads reviewed the road corridor for BORR to allow for the expansion of the Greater Bunbury urban and industrial footprint including the proposed Wanju urban and Waterloo industrial developments. This resulted in a corridor located slightly east of that shown in the GBRS.

A review of the BORR planning objectives followed in 2016-18 due to:

- updated population predictions
- changes resulting in amendments to land use within the Greater Bunbury area and
- increasing pressure on parts of the existing network.



The northern section of BORR is between Forrest Highway and Boyanup Picton Road. A new corridor for this section was selected in April 2019.

Australian Government

BUILDING OUR FUTURE

mainroads WESTERN AUSTRALIA

The Alignment Selection Planning Study included traffic modelling to test the performance of two corridors for future land use scenarios and a future Greater Bunbury population of up to 200,000 people.

In 2017/2018 Main Roads undertook an Alignment Selection Planning Study to identify an integrated planning solution for the northern section of BORR that aligned with the future development of Greater Bunbury.

The study identified an alternative "Outer Ring Road" corridor east of the proposed Greater Bunbury urban footprint which provides a number of network, safety and efficiency benefits in comparison to corridors that bisect the community. More specifically, the eastern BORR north corridor:

- provides an integrated planning solution and defines an outer perimeter for development
- provides improved high speed freight access to the Port (largely separating port bound vehicles from local traffic movements)
- caters for population growth for Greater Bunbury from 80,000 to more than 200,000
- separates the majority of high speed regional and freight traffic from local movements, resulting in improved road safety and efficiency benefits
- provides future residential communities within Greater Bunbury improved access to existing services and built up areas by removing the majority of regional movements within Greater Bunbury and allowing better access to and across the Forrest Highway
- ties in further north of the previous alternatives on Forrest Highway, which improves safety at a number of intersections and improves overall efficiency
- does not preclude future rail options in and around Greater Bunbury, including future fast passenger rail

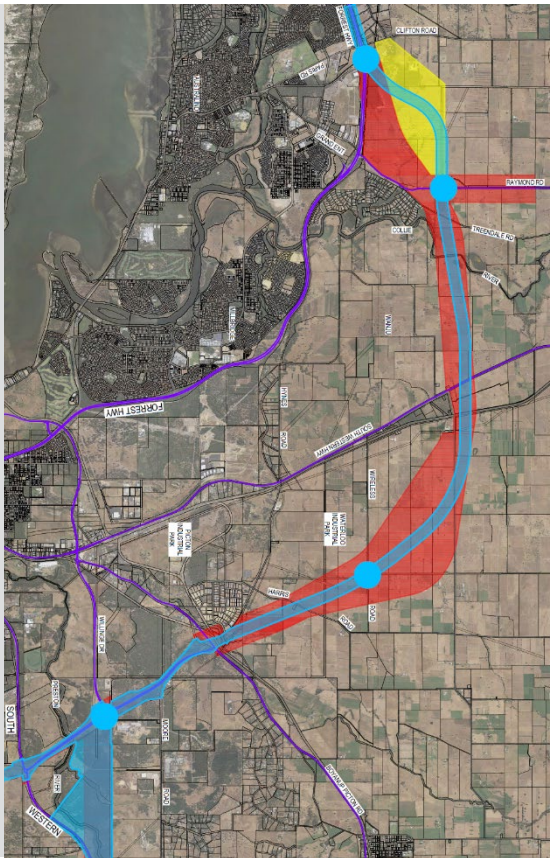
In May 2018 Main Roads presented these findings to the Western Australian Planning Commission (WAPC) and sought support for the preferred "eastern" corridor. After careful consideration, the WAPC resolved to support selection of the eastern alignment as the preferred route in order to undertake further detailed planning activities based on this corridor.

Current Alignment

Main Roads established the BORR Team in April 2018 to undertake detailed planning and project development activities for the entire BORR, including this more easterly corridor for the northern section of BORR.

The BORR Team has since been undertaking field investigations and other design work to identify alignment options within the preferred corridor.

In October 2018, the BORR Team produced an Ultimate Planning Concept Design that reduced the investigation area to a nominal width of 200 metres and identified the location and configuration of major interchanges / connections to the existing road network. This Ultimate Planning Concept Design is expected to be referred to the State and Commonwealth for environmental assessment in April 2019.



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Bunbury Outer Ring Road Planning Status



WANT MORE INFORMATION?

For information on the Bunbury Outer Ring Road Project please visit the projects page on the Main Roads website at www.mainroads.wa.gov.au

Contact Main Roads' Customer Information Centre 138 138

Email enquiries@borrteam.com.au

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Bunbury Outer Ring Road

Project Map

Australian Government
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Northern project area (Stage 2)

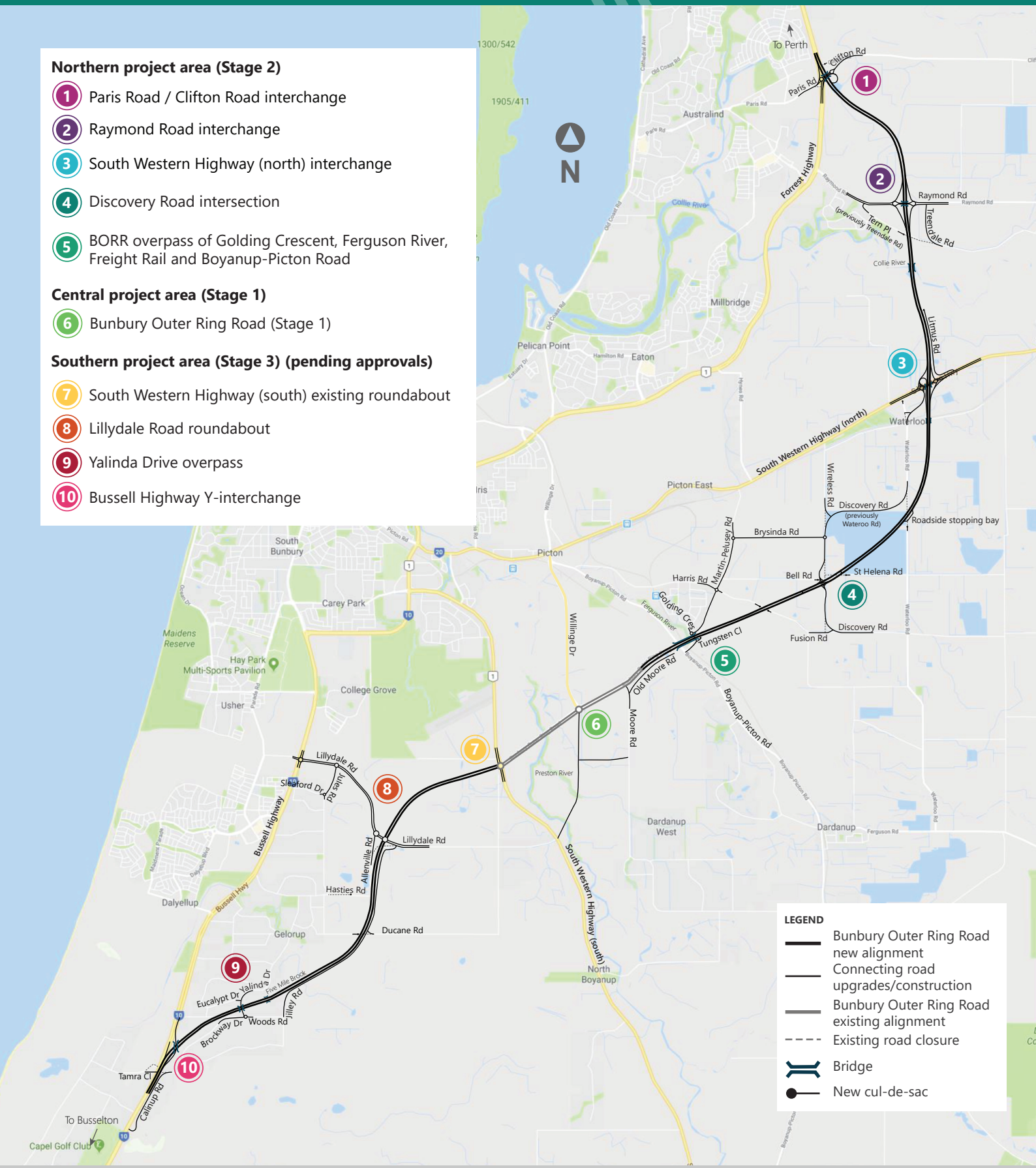
1. Paris Road / Clifton Road interchange
2. Raymond Road interchange
3. South Western Highway (north) interchange
4. Discovery Road intersection
5. BORR overpass of Golding Crescent, Ferguson River, Freight Rail and Boyanup-Picton Road

Central project area (Stage 1)

6. Bunbury Outer Ring Road (Stage 1)

Southern project area (Stage 3) (pending approvals)

7. South Western Highway (south) existing roundabout
8. Lillydale Road roundabout
9. Yalinda Drive overpass
10. Bussell Highway Y-interchange

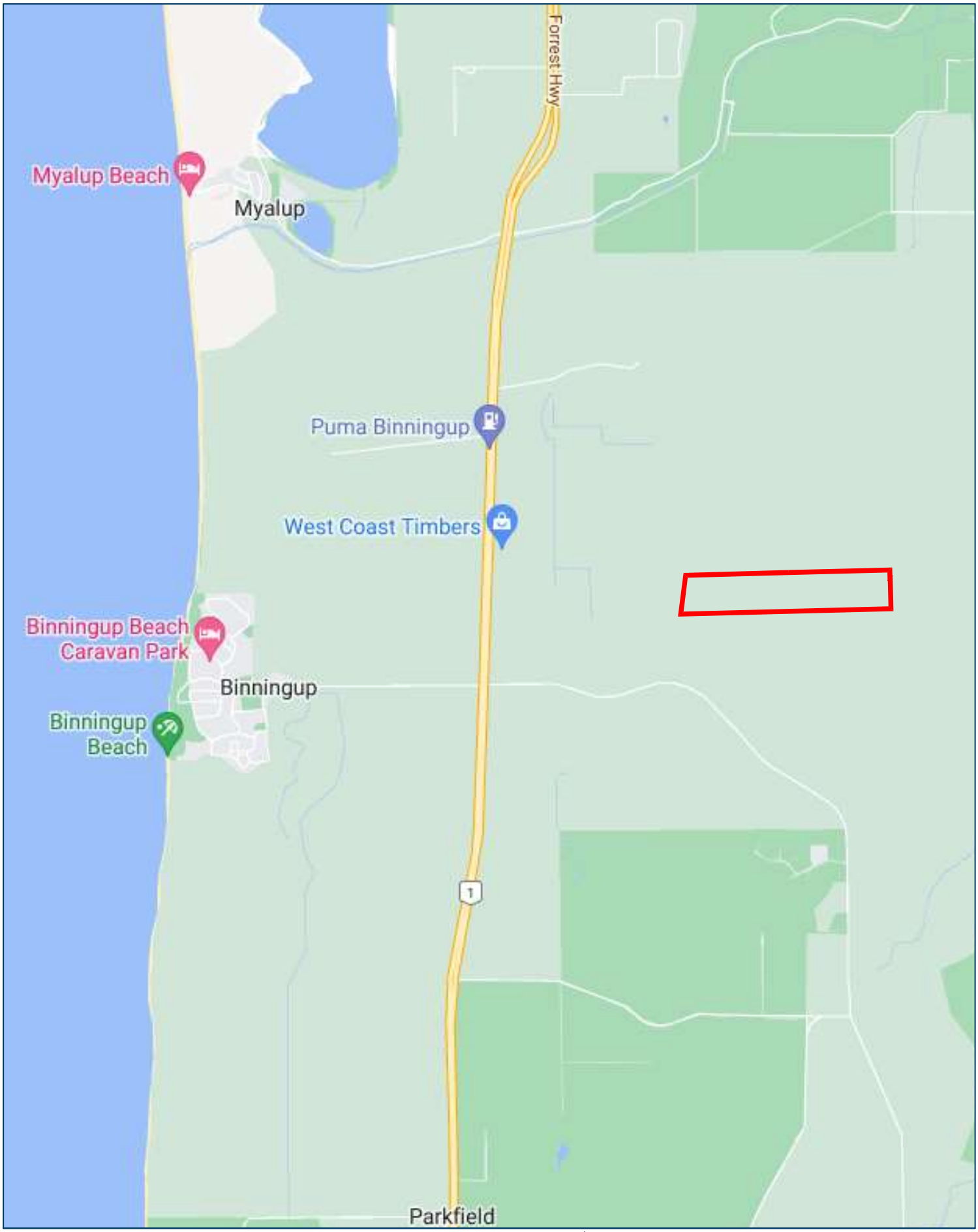


www.mainroads.wa.gov.au

138 138
enquiries@mainroads.wa.gov.au
www.mainroads.wa.gov.au

Annexure SGA5

Locality, Site & Aerial Plans



LOCATION PLAN

LOT 7 RUNNYMEDE ROAD
WELLESLEY

SHIRE OF HARVEY

0 0.5 1 1.5 2km

SCALE: 1:50 000
ORIGINAL PLAN SIZE: A4

JOB CODE:
CAT RUN GE

DATE:
04.07.2022

LEGEND:

SUBJECT LAND -

Allerding & Associates
Town Planners, Advocates and Subdivision Designers

125 Hamersley Road, Subiaco WA 6008
T: (08) 9382 3000 E: reception@allerdingassoc.com W: allerdingassoc.com



SITE PLAN

LOT 7 RUNNYMEDE ROAD
WELLESLEY

SHIRE OF HARVEY

0 100 200 300 400m

SCALE: 1:10 000
ORIGINAL PLAN SIZE: A4

JOB CODE:
CAT RUN GE

DATE:
04.07.2022

LEGEND:

SUBJECT LAND-

Allerding & Associates
Town Planners, Advocates and Subdivision Designers

125 Hamersley Road, Subiaco WA 6008
T: (08) 9382 3000 E: reception@allerdingassoc.com| W: allerdingassoc.com



AERIAL PHOTO

LOT 7 RUNNYMEDE ROAD
WELLESLEY

SHIRE OF HARVEY

0 100 200 300 400m

SCALE: 1:10 000
ORIGINAL PLAN SIZE: A4

JOB CODE:
CAT RUN GE

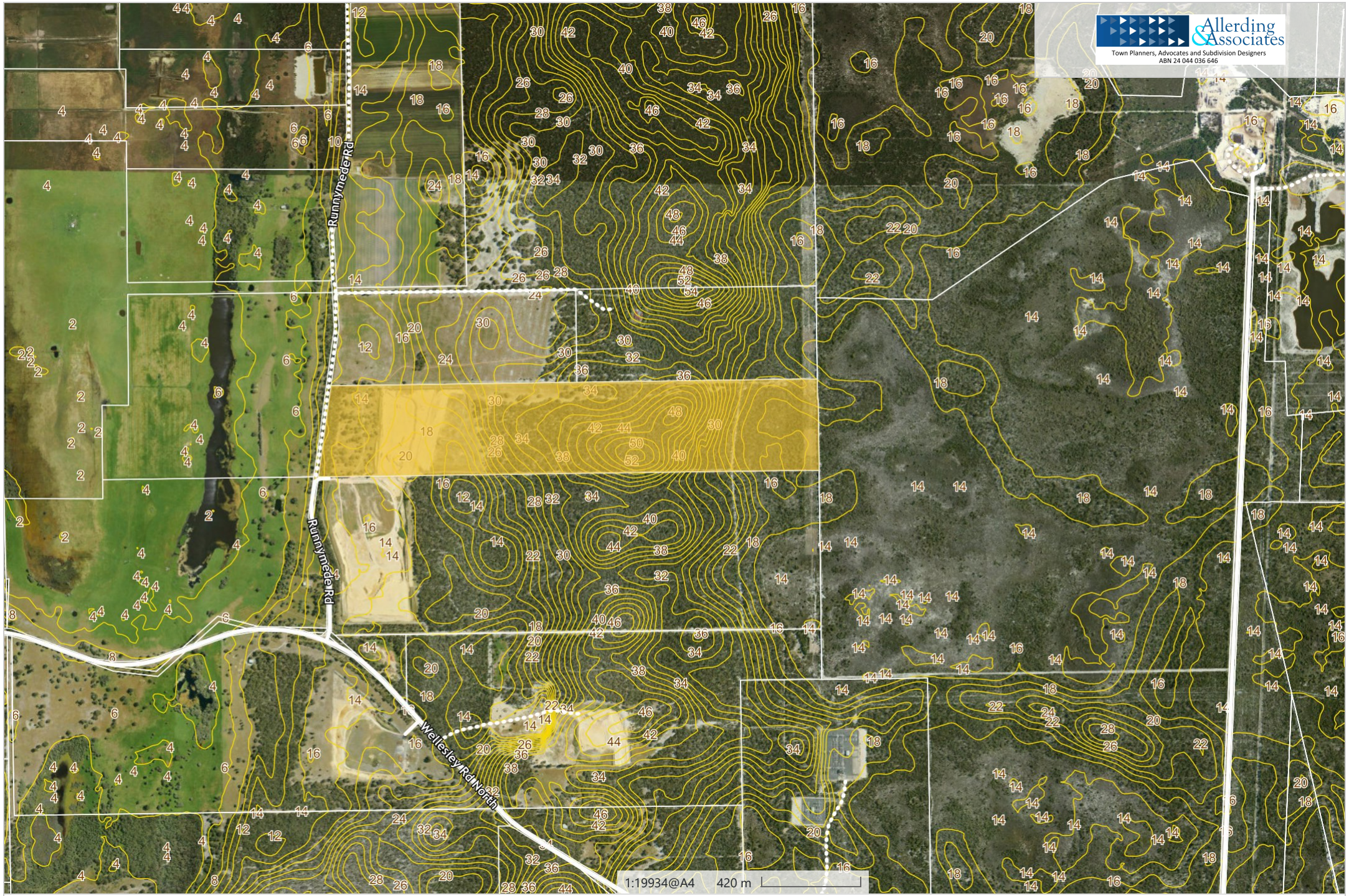
DATE:
04.07.2022

LEGEND:

SUBJECT LAND-

Allerding & Associates
Town Planners, Advocates and Subdivision Designers

125 Hamersley Road, Subiaco WA 6008
T: (08) 9382 3000 E: reception@allerdingassoc.com W: allerdingassoc.com



Allerding & Associates
Town Planners, Advocates and Subdivision Designers
ABN 24 044 036 646

Landgate © 2022 Western Australian Land Information Authority

Created by Steve Allerding (Client)
4th July 2022 at 10:28am (GMT+8) by MNG.

Annexure SGA6

SGS Resources Overlaid on Aerial



SIGNIFICANT GEOLOGICAL SOURCE SAND DEPOSIT

LOTS 4 & 7 RUNNYMEDE ROAD
MYALUP

SHIRE OF HARVEY

0 100 200 300 400 500m

SCALE: 1:7500
ORIGINAL PLAN SIZE: A3

JOB CODE:
CAT RUN GE

DATE:
27.01.2022

LEGEND:

SUBJECT LAND -

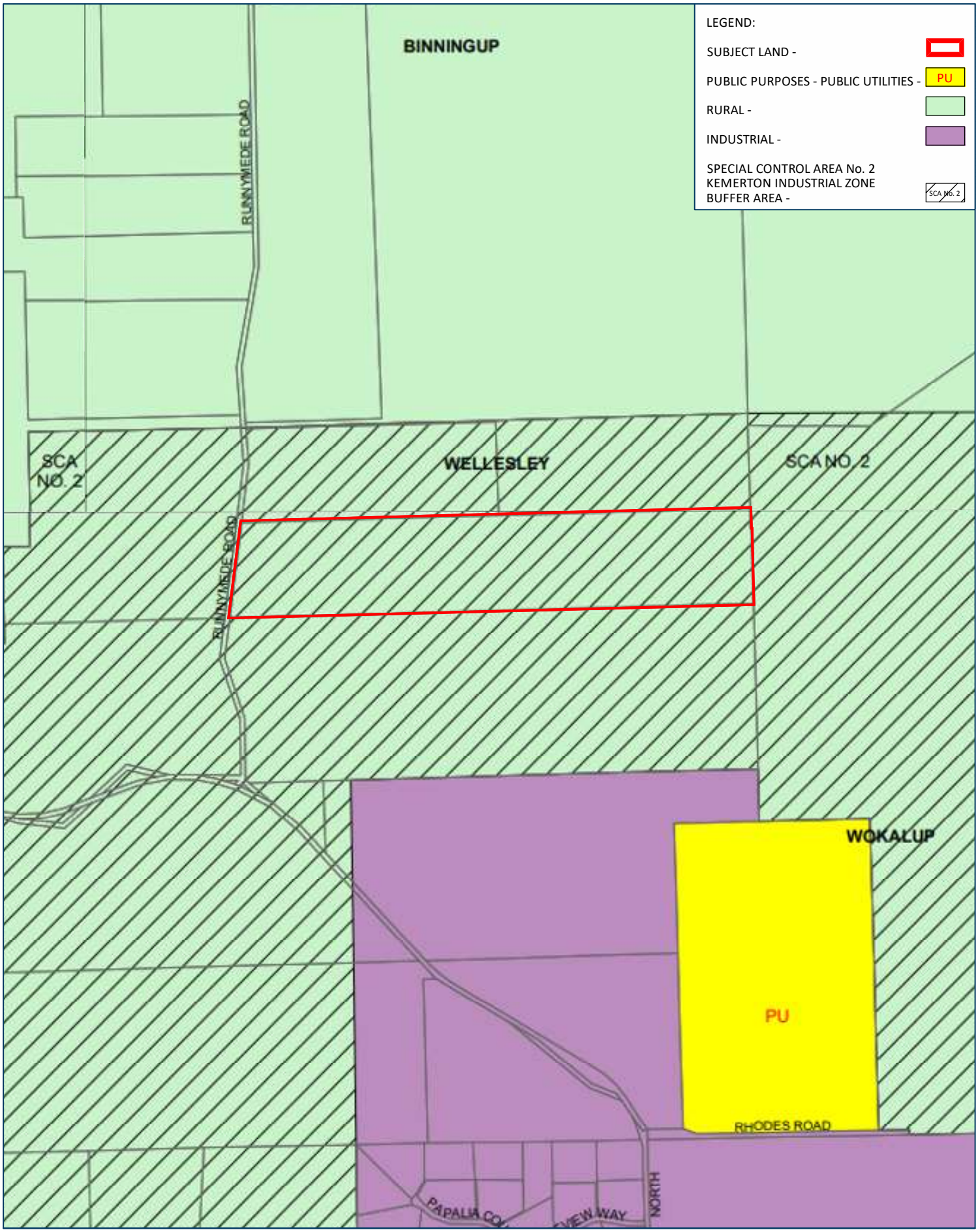
SIGNIFICANT SAND DEPOSIT -

Allerding & Associates
Town Planners, Advocates and Subdivision Designers

125 Hamersley Road, Subiaco WA 6008
T: (08) 9382 3000 |F: (08) 9382 3005 |W: allerdingassoc.com

Annexure SGA7

Zoning Plans



GBRS

LOT 7 RUNNYMEDE ROAD
WELLESLEY

SHIRE OF HARVEY

0 200 400 600 800m

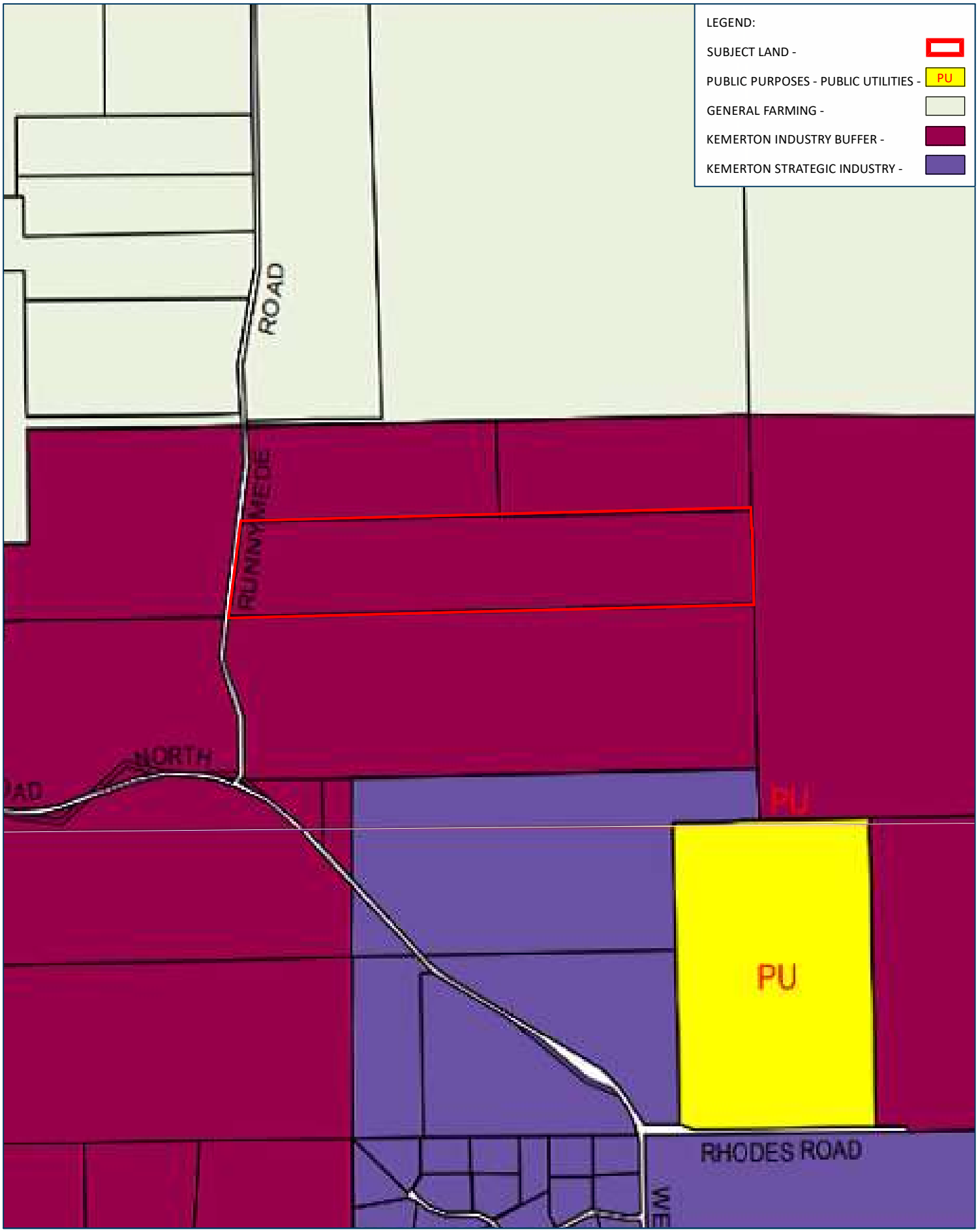
SCALE: 1:20 000
ORIGINAL PLAN SIZE: A4

JOB CODE:
CAT RUN GE

DATE:
04.07.2022

Allerding & Associates
Town Planners, Advocates and Subdivision Designers

125 Hamersley Road, Subiaco WA 6008
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TPS

LOT 7 RUNNYMEDE ROAD
WELLESLEY

SHIRE OF HARVEY

0 200 400 600 800m

SCALE: 1:20 000
ORIGINAL PLAN SIZE: A4

JOB CODE:
CAT RUN GE

DATE:
04.07.2022

Allerding & Associates
Town Planners, Advocates and Subdivision Designers

125 Hamersley Road, Subiaco WA 6008
T: (08) 9382 3000 E: reception@allerdingassoc.com W: allerdingassoc.com

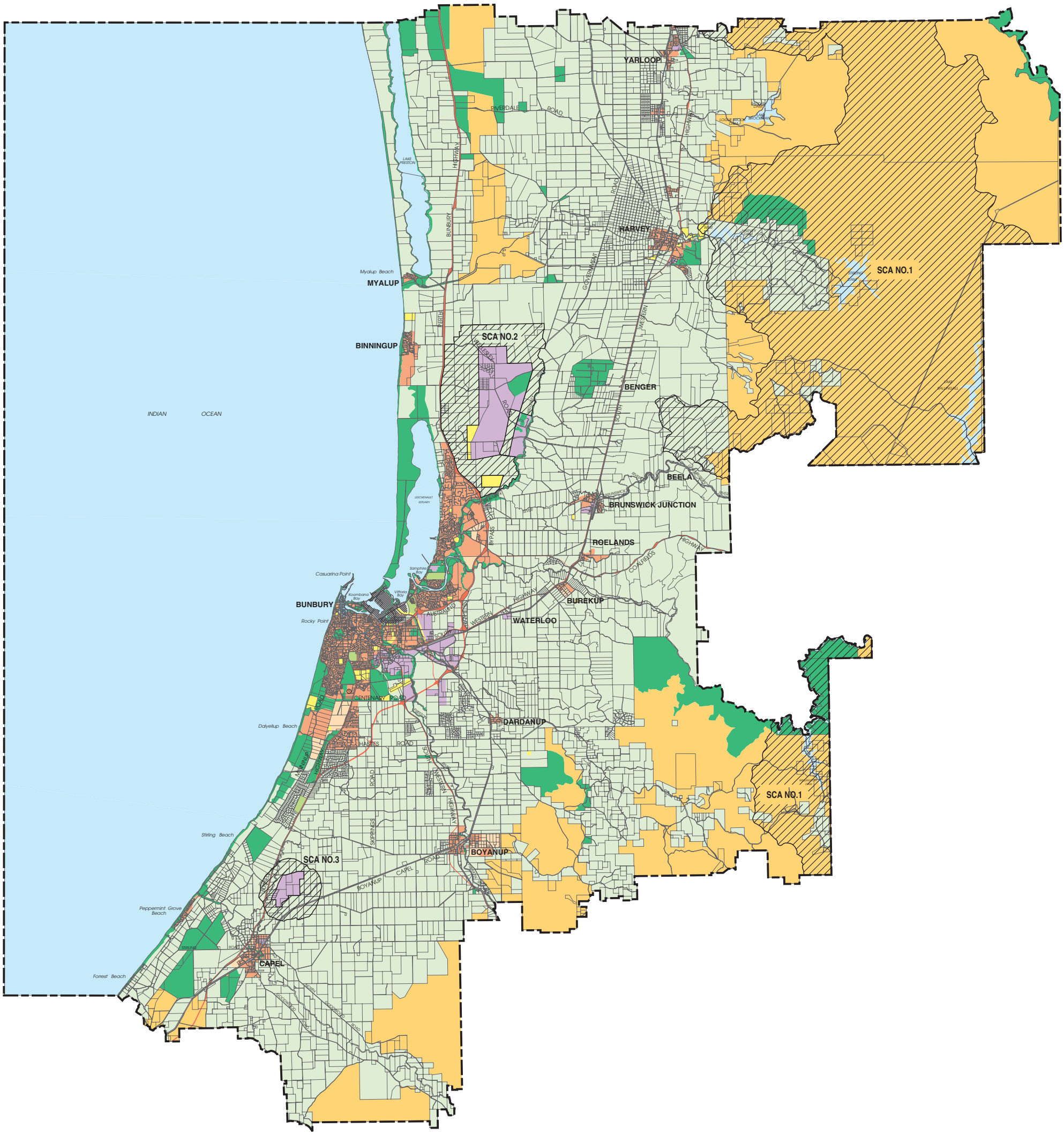


FIGURE 1

LEGEND

RESERVED LANDS

- REGIONAL OPEN SPACE
- RAILWAYS
- STATE FORESTS
- WATERWAYS
- PORT INSTALLATIONS
- PRIMARY REGIONAL ROADS
- OTHER REGIONAL ROADS
- PUBLIC PURPOSES

ZONES

- URBAN
- URBAN DEFERRED
- REGIONAL CENTRE
- INDUSTRIAL
- RURAL
- PRIVATE RECREATION

- SPECIAL CONTROL AREAS DENOTED AS FOLLOWS:
- SCA NO.1 WATER CATCHMENTS
- SCA NO.2 KEMERTON INDUSTRIAL ZONE BUFFER AREA
- SCA NO.3 NORTH CAPEL INDUSTRIAL ZONE BUFFER AREA
- GREATER BUNBURY REGION SCHEME BOUNDARY

NOTES : ① THE REGIONAL OPEN SPACE BOUNDARY IN THE SHEARWATER AREA IS SUBJECT TO FURTHER INVESTIGATION AND REVIEW.

WESTERN AUSTRALIAN PLANNING COMMISSION

CUSTOMER FOCUS WESTERN AUSTRALIA

PRODUCED BY THE STATUTORY MAPPING SECTION,
GEOGRAPHIC AND PLANNING INFORMATION BRANCH, MINISTRY FOR PLANNING.

GREATER BUNBURY REGION SCHEME
ENVIRONMENTAL REVIEW
DRAFT SCHEME MAP

N

SCALE 1:300000

0 2.5 5 Kilometres

Annexure SGA8

GBRS Text

Western Australia

Planning and Development Act 2005

Greater Bunbury Region Scheme

As at 02 Apr 2014 Version 00-d0-04
Published on www.legislation.wa.gov.au

Western Australia

Greater Bunbury Region Scheme

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3. Application of Scheme 2
4. Contents of Scheme 2
5. Purposes of Scheme 2
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Western Australia

Planning and Development Act 2005

Greater Bunbury Region Scheme

Part 1 — Preliminary

1. Citation

This is the *Greater Bunbury Region Scheme*.

2. Definitions

(1) Subject to subclause (2), words and expressions used in the Scheme have the same meaning as they have in the *Planning and Development Act 2005*.

(2) In this Scheme —

artificial waterway means an artificial channel, lake, harbour or embayment, for navigational, ornamental or recreational purposes, or for any of those purposes, and includes any addition to, or alteration of, an artificial waterway as so defined;

EP department mean the department principally assisting in the administration of the *Environmental Protection Act 1986*;

local government means a local government of a district in the region;

region means the Greater Bunbury Region described in clause 3;

reserved land means land reserved under the Scheme for a public purpose;

reserved land owned by or vested in a public authority includes reserved land in relation to which a public authority has an

easement, right of way, right of occupation, or any other interest, right, privilege or concession;

SCA No. 1 means the Water Catchments — Special Control Area shown on the Scheme Map;

SCA No. 2 means the Kemerton Industrial Zone Buffer Area — Special Control Area shown on the Scheme Map;

SCA No. 3 means the Glen Iris Corridor Buffer Area — Special Control Area shown on the Scheme Map;

SCA No. 4 means the Wastewater Treatment Plant Odour Buffer Areas — Special Control Areas shown on the Scheme Map;

Scheme means the Greater Bunbury Region Scheme;

State forest has the same meaning as it has in the *Conservation and Land Management Act 1984*;

State Planning Framework means the State planning policy of that title.

[Clause 2 amended: Gazette 7 Jun 2013 p. 2152.]

3. Application of Scheme

The Scheme applies to the Greater Bunbury Region which comprises all of the districts of the City of Bunbury, the Shire of Capel, the Shire of Dardanup, and the Shire of Harvey, as shown on the Scheme Map.

4. Contents of Scheme

The Scheme comprises —

(a) the Scheme Text; and

(b) the Scheme Map (sheets 1-23).

5. Purposes of Scheme

The purposes of the Scheme are to —

(a) provide for the reservation and protection of land for regional transport, infrastructure, conservation, recreation and public purposes;

(b) provide for the zoning of land for living, working and rural land uses;

(c) provide a mechanism for landowners to be compensated in a fair and equitable manner where land is reserved for a public purpose;

(d) provide an opportunity for the formal environmental assessment of regional planning proposals and provide increased certainty to such proposals;

(e) provide a mechanism for certain development of regional significance, and development in areas of regional significance, to be considered and approved by the Commission; and

(f) identify and protect land having strategic importance for industrial and future urban use.

6. The aims of the Scheme

The aims of the Scheme are to —

(a) promote the sustainable development of land taking into account relevant environmental, social and economic factors;

(b) provide for regional transportation, community services and infrastructure in a way that is efficient, equitable and timely;

(c) protect as regional open space the region's coastal foreshores, the foreshores of the Harvey, Brunswick, Collie, Preston and Capel Rivers, and the Leschenault Estuary and Inlet, as well as other areas of regional conservation significance and areas for regional recreational facilities;

(d) protect surface water catchments and groundwater areas for future water supplies;

(e) provide for industrial development in planned estates where land use conflicts and environmental impacts will be minimised and efficient production facilitated;

(f) provide for future urban purposes and prevent development which could prejudice the future development of urban land;

(g) protect strategic agricultural land considered to be of State or regional importance; and

(h) protect strategic minerals and basic raw materials of State and regional importance and provide for the efficient and timely extraction of minerals and raw materials and subsequent rehabilitation of affected land.

7. Scheme prevails over inconsistent local planning scheme

If the Scheme is inconsistent with a local planning scheme, the Scheme prevails over the local planning scheme to the extent of the inconsistency.

Part 2 — State Planning Framework

8. Scheme determinations to conform with particular provisions of the State Planning Framework

Except to the extent that those provisions are inconsistent with the Scheme, determinations of the Commission under the Scheme are to be consistent with the provisions of the State Planning Framework that the Commission considers are relevant to the region.

Part 3 — Reserved lands

9. Reserves

The lands shown as Reserved Lands on the Scheme Map are reserved under the Scheme for the public purposes shown on the Scheme Map.

10. Purposes of reserves

Land is reserved under the Scheme for the following public purposes —

(a) Regional Open Space — to protect the natural environment, provide recreational opportunities, safeguard important landscapes and provide for public access;

(b) Primary Regional Roads — to provide a regional road network to accommodate current and future transport needs on roads declared under the *Main Roads Act 1930*;

(c) Other Regional Roads — to provide a regional road network to accommodate current and future transport needs on roads for which the planning responsibilities are shared between the Commission and local government;

(d) Railways — to provide for the passage of trains, the marshalling, maintenance and storage of rolling stock, and the conveying of the public and freight by rail;

(e) Port Installations — to provide for the current and future expansion needs of the Port of Bunbury;

(f) Waterways — to recognise permanently inundated inland and coastal lands below the high water mark, and existing and proposed water canals;

(g) State Forests — to recognise State forests;

(h) Public Purposes — to provide for other public purposes as denoted on the Scheme Map.

Part 4 — Zones

11. Zones

(1) The region is classified into the zones shown on the Scheme Map.

(2) The zones are delineated and depicted on the Scheme Map according to the legend on the Scheme Map.

12. Purposes of zones

Land is classified into zones under the Scheme for the following purposes —

(a) Urban — to provide for residential development and associated local employment, recreation and open space, shopping, schools and other community facilities;

(b) Urban Deferred — land suitable for future urban development but where there are various planning, servicing and environmental requirements which need to be addressed before urban development can take place;

(c) Regional Centre — The Bunbury central business district where commercial, civic, cultural, residential, service and administration serving the region are located;

(d) Industrial — to provide for manufacturing industry, the storage and distribution of goods and associated uses;

(ea) Industrial Deferred — land suitable for future industrial development but where there are various planning, servicing and environmental requirements which need to be addressed before industrial development can take place;

(e) Rural — to provide for the sustainable use of land for agriculture, assist in the conservation and wise use of natural resources including water, flora, fauna and minerals, provide a distinctive rural landscape setting for

the urban areas and accommodate carefully planned rural living developments;

(f) Private Recreation — to accommodate regionally significant open space and recreational activities in private use.

[Clause 12 amended: Gazette 9 Apr 2010 p. 1363; 9 May 2014 p. 1429.]

13. Change of zone by resolution

(1) The Commission may, by resolution, transfer land —

(a) from the Urban Deferred zone to the Urban zone; or

(b) from the Industrial Deferred zone to the Industrial zone.

(2) A resolution under subclause (1) takes effect —

(a) on the day on which notification of the resolution is published in the *Gazette* (***publication day***); or

(b) on a day after publication day that is specified in the resolution.

[Clause 13 inserted: Gazette 9 May 2014 p. 1429.]

Part 5 — Special control areas

Division 1 — Operation of special control areas

14. Operation of special control areas

(1) The following special control areas are shown on the Scheme Map —

(a) Water Catchments — Special Control Area (SCA No. 1); and

(b) Kemerton Industrial Zone Buffer Area — Special Control Area (SCA No. 2); and

(c) Glen Iris Service Corridor Buffer Area — Special Control Area (SCA No. 3); and

(d) Wastewater Treatment Plant Odour Buffer Areas — Special Control Areas (SCA No. 4).

(2) The provisions of this Part applying to the special control areas apply in addition to the provisions of the Scheme applying to any underlying zone or reserve and any general provisions of the Scheme.

[Clause 14 amended: Gazette 7 Jun 2013 p. 2152.]

Division 2 — Water Catchments

15. Purposes — SCA No. 1

The purposes of SCA No. 1 are —

(a) to implement State Planning Policy No.2.7: Public Drinking Water Source Policy;

(b) to identify proclaimed surface water catchments within the Greater Bunbury Region; and

(c) to prevent land uses or development which would prejudice the quality or quantity of water supplies for public use.

16. Planning requirements — SCA No. 1

In considering an application for planning approval in SCA No. 1 the Commission is to have regard to —

(a) the provisions of State Planning Policy No.2.7: *Public Drinking Water Source Policy*;

(b) the impact of the proposal on the quality of any existing or future public drinking water supply source;

(c) the extent to which the proposal achieves and adheres to best management practices for the storage of substances that could contaminate the public drinking water sources;

(d) the adequacy of proposed measures to manage run-off and drainage;

(e) whether there is any loss of native vegetation which will be detrimental to maintaining water supply and quality;

(f) the recommendations of the chief executive officer of the EP department, and advice contained in the Water Quality Protection Note: Land Use Compatibility in Public Drinking Water Source Areas prepared by the EP department; and

(g) any other matters that the Commission considers relevant.

17. Consultation

In considering an application for planning approval with respect to land wholly or partly within SCA No. 1 the Commission is to consult with the chief executive officer of the EP Department.

Division 3 — Kemerton Industrial Zone Buffer Area

18. Purposes — SCA No. 2

The purposes of SCA No. 2 are —

(a) to identify land likely to be subject to significant levels of noise, odour, dust, risk or any other off-site impacts from the Kemerton Industrial Zone; and

(b) to ensure that the use and development of land in the area is compatible with any existing or proposed future use or development within the Kemerton Industrial Zone.

19. Planning requirements — SCA No. 2

(1) The following uses are not permitted in SCA No. 2 —

(a) residential accommodation including single residential dwellings and grouped dwellings;

(b) hospitals;

(c) schools;

(d) institutional or other uses involving residential accommodation, including temporary, short stay or holiday accommodation;

(e) general, noxious, hazardous and light industry uses as defined in State Planning Policy No.4.1: *State Industrial Buffer Policy*.

(2) In considering an application for planning approval in SCA No. 2, the Commission is to have regard to —

(a) whether the proposal is compatible with any existing or proposed future use or development within the Kemerton Industrial Zone;

(b) any other relevant planning and environmental considerations including, but not limited to, provisions of the State Planning Framework; and

(c) recommendations of the chief executive officer of the department principally assisting in the administration of the *Mining Act 1978* and the chief executive officer of the EP department.

20. Consultation

In considering an application for planning approval with respect to land wholly or partly within SCA No. 2, the Commission is to consult with the chief executive officer of the department principally assisting in the administration of the *Mining Act 1978* and the chief executive officer of the EP department.

Division 4 — Glen Iris Service Corridor Buffer Area

21. Purposes — SCA No. 3

The purposes of SCA No. 3 are —

(a) to identify land likely to be subject to significant levels of noise, vibration, odour, dust, risk or any other off-site impacts from the Glen Iris Service Corridor; and

(b) to ensure that the use and development of land in the area is compatible with any existing or proposed future use or development of the Glen Iris Service Corridor.

22. Planning requirements — SCA No. 3

(1) The following uses are not permitted in SCA No. 3 —

(a) residential accommodation including single residential dwellings and grouped dwellings;

(b) hospitals;

(c) schools;

(d) institutional or other uses involving residential accommodation, including temporary, short stay or holiday accommodation.

(2) In considering an application for planning approval in SCA No. 3, the Commission is to have regard to —

(a) whether the proposal is compatible with any existing or proposed future infrastructure or transport facilities within the Glen Iris Service Corridor;

(b) any other relevant planning and environmental considerations including, but not limited to, provisions of the State Planning Framework;

(c) recommendations of the chief executive officer of the department principally assisting in the administration of the *Mining Act 1978* and the chief executive officer of the EP department.

23. Consultation

In considering an application for planning approval with respect to land wholly or partly within SCA No. 3, the Commission is to consult with the chief executive officer of the department principally assisting in the administration of the *Mining Act 1978* and the chief executive officer of the EP department.

Division 5—Wastewater Treatment Plant Odour Buffer Areas

[Heading inserted: Gazette 7 Jun 2013 p. 2152.]

24A. Purposes—SCA No. 4

The purposes of SCA No. 4 are—

(a) to implement State Planning Policy No. 4.1: State Industrial Buffers Policy; and

(b) to identify land likely to be subject to offsite odour impacts from wastewater treatment plants; and

(c) to ensure that the use and development of the land in the area is compatible with the on-going operation and expansion of the capacity of the treatment plant, to the extent possible, within the identified odour buffer.

[Clause 24A inserted: Gazette 7 Jun 2013 p. 2152.]

24B. Planning requirements—SCA No. 4

In considering an application for planning approval in SCA No. 4, the Commission is to have regard to—

(a) whether the proposal is compatible with any existing or proposed future use or development within the wastewater treatment plant; and

(b) whether the proposal—

(i) will suffer adverse impacts from possible odour emissions; or

(ii) may, by its nature, potentially jeopardise the continued operation of the wastewater treatment plant; or

(iii) may limit the wastewater treatment plant from operating at its planned ultimate capacity;

and

(c) any other relevant planning and environmental considerations including, but not limited to, provisions of the State Planning Framework and policies of the EP department.

[Clause 24B inserted: Gazette 7 Jun 2013 p. 2152-3.]

24C. Consultation

In considering an application for subdivision or development approval with respect to land wholly or partly within SCA No. 4, the Commission is to consult with the chief executive officer of Water Corporation for comment, and due regard is to be given to any recommendations or comments provided by the Corporation prior to determining the application.

[Clause 24C inserted: Gazette 7 Jun 2013 p. 2153.]

Part 6 — Development of land

24. Requirement for approval to commence development

Subject to clauses 25 and 26 a person must not commence or carry out —

(a) development on reserved land; or

(b) development of a kind or class specified in a resolution made by the Commission under clause 27,

unless that person has first applied for and obtained the planning approval of the Commission under Part 7.

Note for this clause:

[Planning approval for development in a planning control area must be obtained under the *Planning and Development Act 2005* Part 7.]

25. Permitted development on reserved land

The following development on reserved land does not require the planning approval of the Commission —

(a) the erection, construction, maintenance, improvement or alteration of a boundary fence or wall or other means of boundary enclosure;

(b) the carrying out of any building or work which affects only the interior of a building and which does not materially affect the external appearance of the building except where the building is —

(i) located in a place that has been entered in the Register of Heritage Places under the *Heritage of Western Australia Act 1990*; or

(ii) the subject of an order under the *Heritage of Western Australia Act 1990* Part 6;

(c) the demolition of any building or structure except where the building or structure is —

(i) located in a place that has been entered in the Register of Heritage Places under the *Heritage of Western Australia Act 1990*; or

(ii) the subject of an order under the *Heritage of Western Australia Act 1990* Part 6;

(d) the erection of signs that —

(i) relate to the functions of a public authority or local government (other than signs of a promotional nature) and are constructed or exhibited by, or on behalf of, the public authority or local government;

(ii) are required for the management or control of traffic on a public road, car park, cycleway, railway or waterway and are constructed or exhibited by or on behalf of a public authority or local government; or

(iii) are required to be exhibited under a written law;

(e) the erection, construction, maintenance, improvement or alteration of a jetty or associated structure (including a boat lifting device or mooring pile) within an artificial waterway except where the jetty or associated structure —

(i) does not comply with a policy in regard to such structures that is adopted by the relevant local government; or

(ii) is situated on a regionally significant waterway identified by resolution of the Commission for the purposes of this provision;

(f) development on reserved land owned by or vested in a public authority that is —

(i) works on land reserved for Primary Regional Roads or Other Regional Roads for the purpose of or in connection with a road as defined in the *Main Roads Act 1930*;

(ii) works on land reserved for Port Installations for the purpose of or in connection with a port;

(iii) works for the purpose of, or in connection with, the supply of water or wastewater services, electricity or gas, or the drainage of surplus water or treatment of water, wastewater or surplus water;

(iv) works on land reserved for Railways, or for Primary Regional Roads or Other Regional Roads, for the purpose of or in connection with a railway, but this does not include the construction or alteration of a railway station or any related carparks, public transport interchange facilities, or associated means of pedestrian or vehicular access;

(v) works on land reserved for Regional Open Space where the works are in accordance with a management plan endorsed by the Commission;

(vi) works on land reserved for Public Purposes — High School for the purpose of or incidental to a high school;

(vii) operational works on land reserved for State Forests for the purpose of or incidental to a State forest;

(viii) development that a public authority is expressly authorised under an Act to commence or carry out without the approval of the Commission;

(g) any development or class of development that the Commission by resolution, notice of which is published in the *Gazette*, declares to be development not requiring the approval of the Commission.

26. Use of reserved land by a public authority

Without limiting clause 25, reserved land may be used by a public authority without the approval of the Commission if the land is used —

(a) for the purpose for which it is reserved under the Scheme; or

(b) for any purpose for which the land may be lawfully used by the public authority.

27. Resolution as to development in respect of zoned land requiring approval

(1) The Commission may by resolution require development on land zoned under this Scheme to have the planning approval of the Commission before it is commenced or carried on.

(2) The resolution may be made so as to apply to —

(a) all land, or a specified area of land, zoned under this Scheme; and

(b) all development or classes of development or a specified development or class of development on land zoned under this Scheme.

(3) Notice of the resolution is to be —

(a) published in the *Gazette*; and

(b) served on each local government,

as soon as practicable after the resolution is made.

28. Deemed determination of application to commence development where power is delegated to local government

(1) If —

(a) a determination is made by a local government under a local planning scheme in respect of planning approval for development on land to which a resolution under clause 27 applies;

(b) at the same time as the application for that planning approval was made under the local planning scheme, an application was made to that local government under this Scheme for planning approval in respect of the same development; and

(c) the local government has power, pursuant to a delegation by the Commission, to determine the application made under this Scheme,

then, subject to subclause (2) and despite any other provision of this Scheme, the local government is deemed to have made, at the same time as the determination under the local planning scheme was made, the same determination under this Scheme in respect of the development.

(2) Nothing in this clause prevents the Commission from exercising its power to determine an application for planning approval in accordance with the terms of the delegation referred to in subclause (1)(c).

29. Extensions and changes to a non-conforming use

(1) A person must not —

(a) alter or extend a non-conforming use;

(b) erect, alter or extend a building used in conjunction with or in furtherance of a non-conforming use; or

(c) change the use of land from a non-conforming use to another non-conforming use,

unless that person has first applied for and obtained planning approval under Part 7.

(2) In this clause —

non-conforming use has the same meaning as it has in the *Planning and Development Act 2005* section 172.

30. Amending or revoking a planning approval

The Commission may, on written application from the owner of land in respect of which planning approval has been granted, revoke or amend the planning approval prior to the commencement of the development that is the subject of the planning approval.

31. Unauthorised existing developments

(1) Despite clauses 24, 29 and 51, the Commission may grant planning approval for a development already commenced or carried out.

(2) Subclause (1) does not affect the operation of clauses clauses 24, 29 and 51 and the *Planning and Development Act 2005* Part 13 in respect of development commenced or carried out before planning approval has been granted.

(3) Development which was unlawfully commenced is not rendered lawful by the occurrence of any subsequent event except the granting of planning approval for the development, and the continuation of a development unlawfully commenced is taken to be lawful upon the grant of planning approval.

32. Existing uses

Nothing in this Scheme prevents the continued use of land for the purpose for which it was being lawfully used immediately before the Scheme came into effect.

33. Existing approvals

Development —

(a) that was lawfully being carried out in a local government district in the region immediately before the Scheme came into effect; or

(b) in respect of which all necessary approvals under the local planning schemes applying to that district were in force immediately before the Scheme came into effect,

may be lawfully carried out as if this Scheme had not come into effect.

Part 7 — Applications for planning approval

34. Form of application

An application for planning approval is to be —

(a) made in the form of Form 1 in Schedule 1;

(b) signed by the owner of the land on which the development is proposed; and

(c) accompanied by such plans and other information as are required under clause 35.

35. Accompanying material

Unless the Commission waives any particular requirement, every application for planning approval is to be accompanied by —

(a) a plan or plans to a scale of not less than 1:500 showing —

(i) the location of the site including street names, lot numbers, north point and the dimensions of the site;

(ii) the existing and proposed ground levels over the whole of the land that is the subject of the application;

(iii) the location, height and type of all existing structures on the land that is the subject of the application, and all existing structures and vegetation proposed to be removed;

(iv) the existing and proposed use of the site, including proposed hours of operation, and buildings and structures to be erected on the site;

(v) the existing and proposed means of access for pedestrians and vehicles to and from the site;

(vi) the location, number, dimensions and layout of all car-parking spaces intended to be provided;

(vii) the location and dimensions of any area proposed to be provided for the loading and unloading of vehicles carrying goods and commodities to and from the site and the means of access to and from those areas;

(viii) the location, dimensions and design of any open storage or trade display area, and particulars of the manner in which it is proposed to develop those areas; and

(ix) the nature and extent of any open space and landscaping proposed for the site; and

(b) plans, elevations and sections of any building proposed to be erected or altered and of any building it is intended to retain,

and an applicant is also to provide —

(c) any specialist studies that the Commission may require the applicant to undertake in support of the application such as traffic, heritage, environmental, engineering or urban design studies, and

(d) any other plan or information relating to the proposed development that the Commission may reasonably require.

36. Application procedure

(1) An application for planning approval is to be lodged with the local government in whose district the land that is the subject of the application is situated.

(2) A local government which receives an application under subclause (1) is to forward it to the Commission within 7 days of receiving it.

(3) A local government may make recommendations to the Commission regarding an application it has forwarded to the Commission within 42 days, or such longer period as the

Commission allows, of the receipt of the application by the local government.

37. Advertising of applications

(1) If the Commission is of the opinion that planning approval should not be granted before notice of the application is given, the Commission may give notice, or require the applicant to give notice, of the application for planning approval in one or more of the following ways —

(a) notice of the proposed development served on nearby owners and occupiers who, in the opinion of the Commission, are likely to be affected by the proposed development, stating that submissions may be made to the Commission by a day specified in the notice, being not less than 14 days from the day the notice is served;

(b) notice of the proposed development published in a newspaper circulating in the region stating that submissions may be made to the Commission by a day specified in the notice being not less than 14 days from the day the notice is published;

(c) a sign or signs displaying notice of the proposed development erected in a conspicuous position on the land on which development is proposed for a period of not less than 14 days from the day the notice is erected.

(2) The notice referred to in subclause (1) is to be in the form of Form 2 in Schedule 1 with such modifications as are considered appropriate by the Commission.

(3) Any person may inspect the application for planning approval referred to in the notice and the material accompanying that application during business hours at the offices of the Commission.

38. Determination by Commission

After —

(a) the expiry of the period referred to in clause 36(3) within which the local government may make recommendations, or the making of recommendations by the local government under clause 36(3), whichever is sooner; and

(b) the expiry of any period specified for the purposes of clause 37(1)(a), 37(1)(b) or 37(1)(c) in respect of the notice of proposed development,

the Commission may determine the application for planning approval.

Part 8 — Procedure for dealing with applications

39. Consultation with other authorities

(1) The Commission may consult on a proposed development with any public authority it considers appropriate.

(2) The Commission is not to determine a planning application in respect of land reserved under the Scheme for the purposes of a public authority without first consulting that public authority.

40. Matters to be considered by Commission

The Commission in considering an application for planning approval is to have regard to such of the following matters as are in the opinion of the Commission relevant to the development that is the subject of the application —

(a) the aims and provisions of the Scheme and any other local planning schemes in effect within the region;

(b) the requirements of orderly and proper planning including any relevant proposed Scheme amendment, or new local planning scheme or amendment, for which consent for public submissions to be sought has been granted;

(c) any State planning policy;

(d) any environmental protection policy approved under the *Environmental Protection Act 1986*;

(e) any policy or strategy of the Commission and any policy adopted by the Government of the State;

(f) the provisions of any Local Planning Strategy of the local government in respect of a local planning scheme, as approved by the Commission under the *Town Planning Regulations 1967* regulation 12B and amended from time to time;

(g) in the case of land reserved under the Scheme, the purpose for which the land is reserved;

(h) the conservation of any place that has been —

(i) entered in the Register of Heritage Places under the *Heritage of Western Australia Act 1990*; or

(ii) which is included in a Heritage List or a Heritage Area under a local planning scheme;

(i) the compatibility of a development with its setting;

(j) any social issues that have an effect on the amenity of the locality;

(k) the cultural significance of any place or area affected by the development;

(l) the likely effect of the proposal on the natural environment and any means that are proposed to protect or to mitigate impacts on the natural environment;

(m) whether the land to which the application relates is unsuitable for the proposal by reason of it being, or being likely to be, subject to flooding, tidal inundation, subsidence, landslip, bush fire or other risk;

(n) the preservation of the amenity of the location;

(o) the relationship of the proposal to development on adjoining land or on other land in the locality, including but not limited to, the likely effect of the height, bulk, scale, orientation and appearance of the proposal;

(p) whether the proposed means of access to and egress from the site are adequate and whether adequate provision has been made for the loading, unloading, manoeuvring and parking of vehicles;

(q) the amount of traffic likely to be generated by the proposal, particularly in relation to the capacity of the road system in the locality and the probable effect on traffic flow and safety;

(r) whether public transport services are necessary and, if so, whether they are available and adequate for the proposal;

(s) whether public utility services are available and adequate for the proposal;

(t) whether adequate provision has been made for access for pedestrians and cyclists (including end of trip storage, toilet and shower facilities);

(u) whether adequate provision has been made for access by disabled persons;

(v) whether adequate provision has been made for the landscaping of the land to which the application relates and whether any trees or other vegetation on the land should be preserved;

(w) whether the proposal is likely to cause soil erosion or land degradation;

(x) the potential loss of any community service or benefit resulting from the planning approval;

(y) any relevant submissions received on the application;

(z) any recommendations received from a local government under clause 36(3);

(za) consultations under clause 39(1); and

(zb) any other planning consideration the Commission considers relevant.

41. Determination of applications

In determining an application for planning approval the Commission may —

(a) grant its approval with or without conditions; or

(b) refuse to grant its approval.

42. Form and date of determination

(1) As soon as practicable after determining an application, the Commission is to give notice of the determination to the applicant in the form of Form 3 in Schedule 1.

(2) The date of the determination is the date specified in the notice.

(3) If the Commission refuses an application for planning approval the Commission is to give reasons for its refusal.

43. Term of planning approval

(1) If the Commission grants planning approval for the development of land —

(a) the development approved is to be substantially commenced within 2 years, or such other period as is specified in the approval, after the date of the determination; and

(b) the approval lapses if the development has not substantially commenced before the expiration of that period.

(2) A written request may be made to the Commission for an extension of the term of planning approval at any time prior to the expiry of the approval period under subclause (1).

44. Temporary planning approval

If the Commission grants planning approval, the Commission may impose conditions limiting the period of time for which the approval is given.

45. Scope of planning approval

Planning approval may be granted —

(a) for the development for which the approval is sought;

(b) for that development, except for a specified part or aspect of that development; or

(c) for a specified part or aspect of that development.

46. Approval subject to later approval of details

(1) Where an application for planning approval is for a development that includes the carrying out of any building or works, the Commission may grant approval subject to matters requiring the subsequent planning approval of the Commission. These matters may include the siting, design and external appearance of the buildings, means of access, landscaping and such other matters as the Commission thinks appropriate.

(2) In respect of an approval requiring subsequent planning approval, the Commission may require such further details as it thinks appropriate prior to considering the application for subsequent planning approval.

(3) Where the Commission has granted approval subject to matters requiring the later planning approval of the Commission, an application for approval of those matters must be made not later than 2 years after the date of the determination of the first approval, or such other period as is specified in the first approval.

47. Deemed refusal

(1) Subject to subclause (2), an application for planning approval is deemed to have been refused if a determination in respect of that application is not given to the applicant by the Commission within 60 days of the receipt of the application by the Commission, or within such further time as is agreed in writing between the applicant and the Commission.

(2) An application for planning approval which is the subject of a notice under clause 37 is deemed to be refused where a determination in respect of that application is not given to the applicant by the Commission within 90 days of the receipt of the application by the Commission, or within such further time as is agreed in writing between the applicant and the Commission.

(3) Despite an application for planning approval being deemed to have been refused, the Commission may issue a determination in respect of the application at any time after the expiry of the period referred to in subclause (1) or (2), as the case requires, and that determination is as valid and effective from the date of determination as if it had been made before the period expired.

48. Application for review

An applicant aggrieved by —

(a) the exercise of a discretionary power by the Commission under the Scheme in respect of the application; or

(b) a decision of the Commission not to transfer land from the Urban Deferred zone to the Urban zone; or

(c) a decision of the Commission not to transfer land from the Industrial Deferred zone to the Industrial zone,

may apply to the State Administrative Tribunal for a review under the *Planning and Development Act 2005* Part 14.

[Clause 48 amended: Gazette 9 May 2014 p. 1429.]

Part 9 — Enforcement and administration

49. Compensation

(1) A claim for compensation for injurious affection may be made under the *Planning and Development Act 2005* Part 11.

(2) A claim for compensation for injurious affection to land or property other than reserved land is to be lodged at the office of the Commission within 6 months of the date of publication in the *Gazette* of notice of the approval of the Scheme or the amendment by which the land or property is injuriously affected.

(3) A claim for compensation is to be in the form of Form 4 in Schedule 1.

(4) If compensation for injurious affection is claimed as a result of the operation of the provisions of the *Planning and Development Act 2005* section 174(1) the Commission may at its option elect to acquire the land so affected instead of paying compensation.

50. Powers of the Commission

(1) The Commission in implementing the Scheme has the power to enter into an agreement with any owner, occupier or other person having an interest in land affected by the provisions of the Scheme in respect of any matters pertaining to the Scheme.

(2) A person authorised in writing by the Commission may, at all reasonable times and with such assistance as may be required, enter any building or land in the region for the purpose of ascertaining whether the provisions of the Scheme are being observed.

51. Person must comply with provisions of Scheme

A person must not —

(a) contravene the provisions of the Scheme;

(b) use a building or commence or continue to carry out any development within the region otherwise than in accordance with —

(i) the Scheme; and

(ii) any conditions imposed upon the grant of any approval under the Scheme in respect of the use or development.

52. Environmental conditions

(1) Environmental conditions incorporated into the Scheme or an amendment to the Scheme are set out in Schedule 2.

(2) Where appropriate, the environmental conditions are indicated on the Scheme Map by the symbol EC to indicate that environmental conditions apply to the land.

(3) The Commission is to —

(a) maintain a register of all relevant statements published under the *Environmental Protection Act 1986* sections 48F and 48G; and

(b) make the statements available for public inspection at the offices of the Commission.

53. Certificates

(1) The Commission may, on payment of the relevant fee set under the *Planning and Development Act 2005* section 20, issue a certificate in the form set out in Schedule 3 in respect of any land, stating the manner in which it is affected by the Scheme and the purpose, if any, for which the land is reserved under the Scheme.

[(2) deleted]

[Clause 53 amended: Gazette 1 Jun 2012 p. 2285.]

Schedule 1 — Forms

Form 1

Form of Application for Planning Approval

[cl. 34]

Greater Bunbury Region Scheme

Owner details	
Name:	
Address:	
	Postcode:
Phone: (home):	
(work):	Fax:
(mobile):	E-mail:
Contact person:	
Signature:	Date:
Signature:	Date:
The signature of the owner(s) is required on all applications. This application will not proceed without that signature.	
Applicant details	
Name:	
Address:	
	Postcode:
Phone: (home):	
(work):	Fax:
(mobile):	E-mail:
Contact person for correspondence:	
Signature:	Date:

Property details		
Lot No.:	House/Street No.:	Location No.:
Diagram or Plan No.:	Certificate of Title Vol. No.:	Folio:
Diagram or Plan No.:	Certificate of Title Vol. No.:	Folio:
Title encumbrances (e.g. easements, restrictive covenants):		
Street name:	Suburb:	
Nearest street intersection:		
Existing building/land use:		
Description of proposed development and/or use:		
Nature of any existing buildings and/or use:		
Approximate cost of proposed development:		
Estimated time of completion:		
OFFICE USE ONLY		
Acceptance Officer's initials:	Date received:	
Local government reference No.:		
Commission reference No.:		

Form 2

Notice of Public Advertisement of Planning Proposal

[cl. 37]

Greater Bunbury Region Scheme

Western Australian Planning Commission

The Commission has received an application to use and/or develop land for the following purpose and public comments are invited.		
Lot No.:	Street:	Suburb:
Proposal: …… …… ……		
Details of the proposal are available for inspection at the Commission's office. Comments on the proposal may be submitted to the Commission in writing on or before the..... day of ……..		
Signed:		
Dated:		
for and on behalf of the Western Australian Planning Commission		

Form 3

Notice of Determination of Application for Planning Approval

[cl. 42]

Greater Bunbury Region Scheme

Western Australian Planning Commission

Location:		
Lot No.:		Plan/Diagram:
Vol. No.:		Folio No.:
Application date:		Received on:
Description of proposed development: …… ……..		
The application for planning approval is:		
☐	granted subject to the following conditions:	
☐	refused for the following reason(s):	
Condition(s)/reason(s) for refusal: …… ……..		
Note 1	If the development that is the subject of this approval is not substantially commenced within a period of 2 years, or such other period as specified in the approval after the date of the determination, the approval shall lapse and be of no further effect.	
Note 2	Where an approval has so lapsed, no development shall be carried out without the further approval of the Commission having first been sought and obtained.	
Note 3	If an applicant is aggrieved by this determination there is a right of review under the Scheme clause 48. An application for review must be made in accordance with the *State Administrative Tribunal Rules 2004*.	
Signed:		
Dated:		
for and on behalf of the Western Australian Planning Commission		

Form 4

Claim for Compensation for Injurious Affection

[cl. 49]

Greater Bunbury Region Scheme

To the Western Australian Planning Commission:

Owner details*	
Name:	
Address:	
	Postcode:
Phone (home):	
(work):	Fax:
(mobile):	E-mail:

[*If the claim is made under the *Planning and Development Act 2005* section 177(1)(a), the details are to be those of the owner of the land at the date of reservation or alteration of the reservation, as the case requires.

If the claim is made under the *Planning and Development Act 2005* section 177(1)(b), the details are to be those of the owner of the land at the date of the application for approval to carry out development.]

Contact person:	
Signature:	Date:
Signature:	Date:
The signature of the owner(s) is required on all applications. This application will not proceed without that signature.	

Details of property in respect of which claim for compensation for injurious affection is made		
Lot No.:	House/Street No.:	Location No.:
Diagram or Plan No.:	Certificate of Title Vol. No.:	Folio:
Diagram or Plan No.:	Certificate of Title Vol. No.:	Folio:

Title encumbrances (e.g. easements, restrictive covenants):	
Street name:	Suburb:
Nearest street intersection:	
Existing building/land use:	
Description of proposed development and/or use:	
Nature of any existing buildings and/or use:	
State reasons for the claim that the property has been injuriously affected	
State amount of compensation claimed	
The amount of compensation claimed is:	
which is made up as follows:	

Schedule 2 — Environmental Conditions

[cl. 52]

1. Management Plans

The following Environmental Management Plans may be required in accordance with the specifications set out in Attachment 1 in the Minister for the Environment's "Statement that a Scheme may be Implemented" No. 000697 published on 31 October 2005, and shall be subsequently implemented in accordance with the provisions of the Management Plans, to the satisfaction of the Western Australian Planning Commission —

(a) Environmental Management Plans for schemes, subdivisions and developments which impact on Regional Open Space in the scheme, Crown conservation or nature reserves, a National Park or bushland, waterways, wetlands or other land that may be part of an ecological linkage;

(b) Environmental Management Plans for industrial development within the Kemerton Industrial Area and Special Control Area No. 2;

(c) Drainage, Nutrient and Water Management Plans in areas where the Average Maximum Groundwater Level is less than 1.2 metres below the natural ground surface or where any proposed off-site drainage could lead to degradation of wetlands or waterways; and

(d) Acid Sulfate Soil Management Plans where the presence of acid sulphate soils is confirmed or there is likely to be a significant risk of disturbing acid sulphate soils.

2. Biological Survey

As part of a scheme amendment or application to subdivide or develop land which has the potential to impact on regionally significant native remnant vegetation or native fauna, the Western Australian Planning Commission or local government, as the case requires, may require a biological survey, including a search for Declared Rare Flora and Fauna, Priority Flora, Threatened Flora Communities and Threatened Fauna, to be undertaken.

The biological survey shall be undertaken to the satisfaction of the Western Australian Planning Commission or local government, as the case requires, having due regard for advice from relevant government agencies, and shall be taken into account when considering the rezoning and subsequent subdivision and development applications.

3. Provision of Environmental Offsets

Prior to construction of the Port Access Road and Bunbury Outer Ring Road, an environmental offset strategy shall be prepared to mitigate unavoidable impacts on wetlands and native vegetation associated with the Port Access Road and Bunbury Outer Ring Road to the satisfaction of the Western Australian Planning Commission on advice of the Environmental Protection Authority. With respect to the Port Access Road, the strategy shall include a foreshore management plan for the Ferguson River in the vicinity of the road. With respect to the Bunbury Outer Ring Road, the strategy shall include rehabilitation of the strip of land adjacent to the road in the vicinity of Lot 15 North Boyanup Road (South Western Highway) and design of the intersection with the Australind Bypass to minimize impacts on environmental values of the area.

Schedule 3 — Certificate

[cl. 53]

Greater Bunbury Region Scheme

Scheme Certificate

In accordance with the *Greater Bunbury Region Scheme* clause 53 the following information is furnished in respect of:-

Location: .....……

Lot No. : ..... Plan/Diagram No. : ……....

Vol No. : ..... Folio No. : ……

……

……

……

……

……

Notes

[1] This is a compilation of the *Greater Bunbury Region Scheme* and includes the amendments made by the other written laws referred to in the following table.

Compilation table

Citation	Gazettal	Commencement
Greater Bunbury Region Scheme	17 Oct 2007 p. 5555-601	17 Oct 2007
Greater Bunbury Region Scheme Amendment No. 0009/57	9 Apr 2010 p. 1363	9 Apr 2010
Region Planning Schemes Amendments Instrument 2012 Pt. 3	1 Jun 2012 p. 2284-5	1 Jun 2012
Greater Bunbury Region Scheme Amendment 0020/57	7 Jun 2013 p. 2152-3	7 Jun 2013
Greater Bunbury Region Scheme Amendment 2013	9 May 2014 p. 1428-9	2 Apr 2014 (see cl. 2)

Defined terms

[This is a list of terms defined and the provisions where they are defined. The list is not part of the law.]

Defined term	Provision(s)
artificial waterway	2(2)
EP department	2(2)
local government	2(2)
non-conforming use	29(2)
region	2(2)
reserved land	2(2)
reserved land owned by or vested in a public authority	2(2)
SCA No. 1	2(2)
SCA No. 2	2(2)
SCA No. 3	2(2)
SCA No. 4	2(2)
Scheme	2(2)
State forest	2(2)
State Planning Framework	2(2)

Annexure SGA9

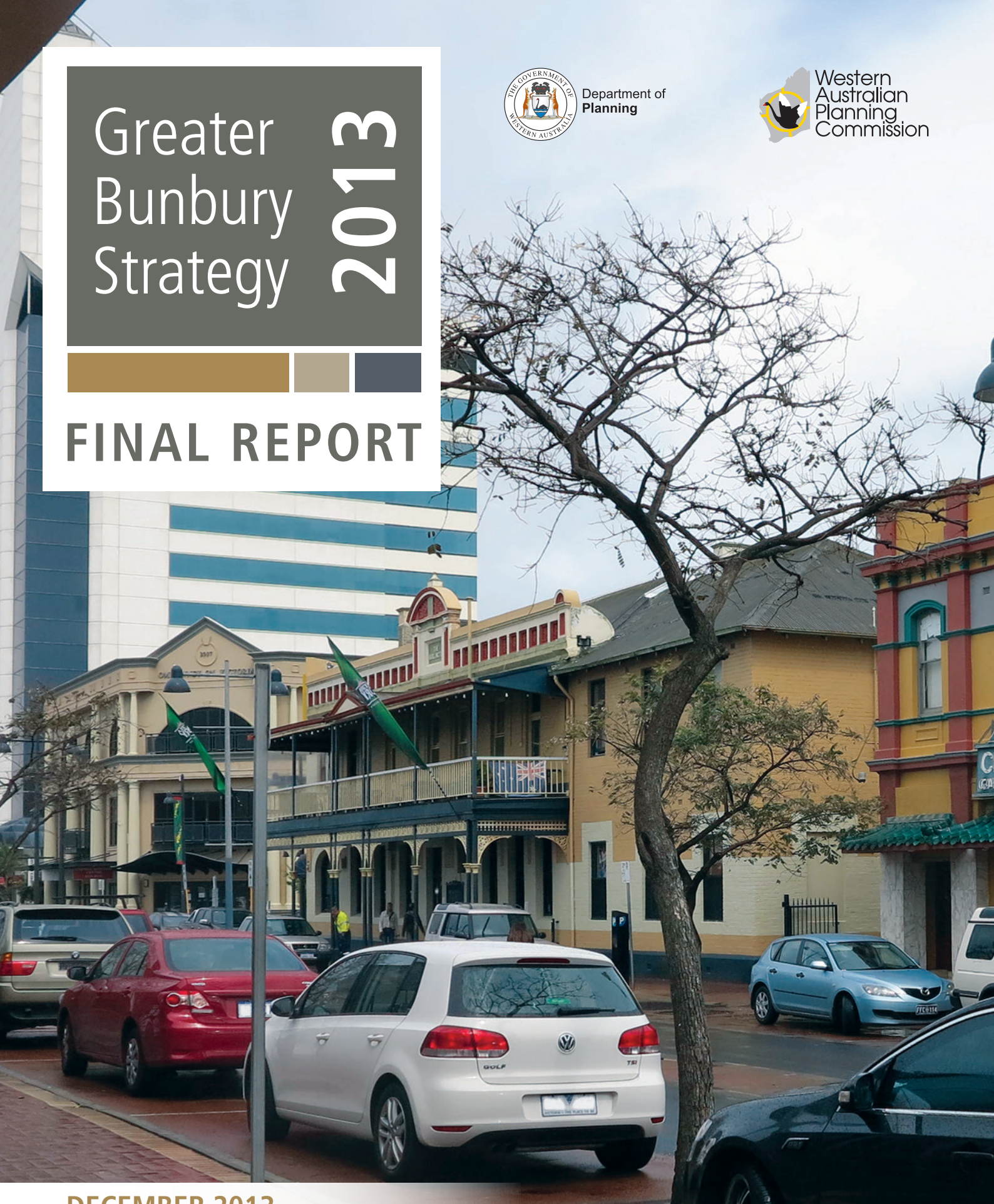
Greater Bunbury Strategy

Greater Bunbury Strategy 2013

FINAL REPORT

Department of Planning

Western Australian Planning Commission



DECEMBER 2013



Greater Bunbury Strategy 2013

FINAL REPORT



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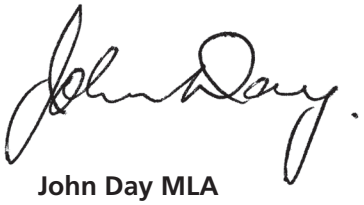
Minister's foreword

The Greater Bunbury area is a significant contributor to the economy of Western Australia, and of the nation. The South West region has diverse social and economic history and supports a unique array of natural resources, complex biodiversity and attractive agricultural and tourism landscapes.

Greater Bunbury plays an important role in the State's South West, providing key infrastructure such as the Bunbury international sea port and major health and education facilities. Its proximity to metropolitan Perth, major mining employment opportunities in Collie and the tourist attractions of Busselton–Margaret River makes Bunbury a prominent strategic centre and key to the long-term viability of the State.

The continued sustainability of Greater Bunbury will be determined by the strength of its communities; the liveability and self-sufficiency of its towns and city centre; the flexibility of its economy; and the preservation of its natural and cultural history.

The *Greater Bunbury Strategy 2013* demonstrates a future for our community to which we aspire. I look forward to watching the Greater Bunbury sub-region evolve economically and equitably, while retaining its unique lifestyle opportunities and desirability as a place to live and visit.



John Day MLA
Minister for Planning

Greater Bunbury Strategy 2013

FINAL REPORT





Chairperson's foreword

The future of Bunbury as Western Australia's second major city outside of the Perth metropolitan area is secured through the planning vision contained within the *Greater Bunbury Strategy 2013*.

The resilience and self-reliance of the area will be maintained through its diversity in economic base, and the protection of its unique environment. Some exciting and significant development and infrastructure projects are proposed in the sub-region, which will demonstrate world class best practice and innovation in technology. Bunbury's communities will continue to be supported through proactive social infrastructure and networks.

The Strategy retains and strengthens the region's local sense of place and seeks to improve connectivity between activity centres and employment lands whilst maintaining the natural and cultural values of the area.

This Strategy will be reviewed every five years to ensure that development can react to changes in demand and planning philosophies.

Eric Lumsden PSM
Chairperson
Western Australian Planning Commission



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Greater Bunbury Strategy 2013



FINAL REPORT

1. Executive Summary

The *Greater Bunbury Strategy 2013* has been prepared by the Department of Planning to guide urban, industrial and regional land use planning; and associated infrastructure delivery in the Greater Bunbury sub-region in the short, medium and long terms.

Based on the State Demographer's *WA Tomorrow 2012* report, the projected population growth for Greater Bunbury to the year 2026 ranges between a conservative figure of 100,400 people to a possible population of 145,500 people, with a median projection of 122,400 people.

The Greater Bunbury Strategy provides for necessary land uses to accommodate the population of the Greater Bunbury sub-region from 83,598 (2011 census), to over 150,000 people, which is considered adequate for the short and medium terms. This provides an excess to the population projected to in 2026 but provides flexibility and robustness to accommodate any accelerated growth that may occur.

As the supply of urban and industrial land and provision of associated infrastructure requires significant lead time to enable planning, design, funding and development, the Greater Bunbury Strategy will be reviewed every five years to ensure there is adequate land supply to respond to growth patterns.

1.1 What is the *Greater Bunbury Strategy 2013*?

The *Greater Bunbury Strategy 2013* advocates a 'compact and connected' growth pattern as the most balanced and responsible way for the Greater Bunbury sub-region to develop. This will support:

- a robust, diverse and sustainable economy;
- an efficient way to provide economic and social infrastructure;
- a range of housing options;
- the conservation of the Greater Bunbury sub-region's natural and cultural heritage and environmental values;
- improvements and investment in public transport and walking and bicycle use;
- the protection of agricultural land for its economic, landscape, tourism and social values; and
- a community identity, particularly for the hinterland towns.

1.2 Objectives of the *Greater Bunbury Strategy 2013*

1. Identify the most advantageous and sustainable locations to accommodate urban growth.
2. Identify the most advantageous and sustainable locations for future industrial areas.
3. Assist in the coordination of major infrastructure provision from a government perspective.
4. Determine areas required for future Greater Bunbury Region Scheme public purposes (e.g. airports, hospitals, high schools, etc.).
5. Determine appropriate future Greater Bunbury Region Scheme reserved lands (e.g. regional open space, waterways, railways, port infrastructure, primary regional roads and other regional roads).



1.3 Key outcomes of the *Greater Bunbury Strategy 2013*

- A population of more than 150,000 people will be accommodated and serviced within the Greater Bunbury sub-region within existing urban zoned land and identified urban expansion area.
- A compact and connected urban form will be delivered to protect the Greater Bunbury sub-region's diverse economic base, efficient provision of social services, the efficiency of road and rail infrastructure, productive agricultural land, conservation areas, and important resource lands.
- The Bunbury central business district (CBD) will be protected and recognised as the regional centre for the South West Region and the revitalisation of the Bunbury CBD will be facilitated.
- Future urban growth will predominantly be accommodated within existing urban zoned land, maintaining a pattern of compact and consolidated urban areas.
- New, strategically located greenfield expansion areas for urban and industrial uses will be developed sequentially for development.
- Economic and social infrastructure provision will be coordinated and prioritised to provide efficient services to meet the demands for residential, industrial, commercial and agricultural uses. Significant investments in roads, rail, port, drainage, water and power networks and public open space will ensure that the Greater Bunbury sub-region will grow while enhancing its unique lifestyle and be an enviable place to live, work and visit.
- Activity centres will provide a mix of land uses, with a significant increase in the number of dwellings provided within the activity centres.
- A range of housing types and lifestyle options will be provided across Greater Bunbury.





1.4 Implementation

The Greater Bunbury Strategy identifies a number of key tasks and planning actions required as part of its implementation. Some of these tasks and actions are already underway and are anticipated to be implemented within the short term. Others will be implemented in the medium to long term. The Department of Planning and the Western Australian Planning Commission (WAPC) are committed to working with other agencies to achieve these goals.



2. Introduction

2.1 The challenge of change

As our population and economy fluctuates, land use planners have the challenge of balancing current trends and the predicted future needs of the community. To secure the ongoing prosperity and wellbeing of our communities we need to ensure that we meet the needs of current and future generations, while ensuring economic growth can be sustained without compromising the natural environment or diminishing quality of life.

It is important to invest in infrastructure and use existing infrastructure more effectively. Better planned cities and better services will make a real difference to improving social equity in our communities. The decisions made by government, businesses and individuals alike have a significant impact on our community now and into the future.

In the past, new housing development has been concentrated on the outer edges of our cities. The low density of Australian cities, compared with many other international cities means that residents have to travel further each day to complete our daily activities, and businesses spend more time moving their supplies, products and services, therefore reducing their productivity. Vehicle congestion reduces urban liveability and is detrimental to the environment.

Historically, the Australian Government has not been a major funder of transport systems, including public transport. Recent population and economic growth has highlighted the need for governments to use public transport to leverage more sustainable urban development forms, with investment in public transport routes often acting as the catalyst of regeneration of areas within walking distance of the routes. This contributes towards more accessible, less car dependent communities and businesses.

Recent positive trends across Australia include:

- increasing density in inner urban areas, which increases use of public transport and walking and cycling and helps justify investment in such infrastructure;
- greater awareness regarding energy and water consumption;
- investment in renewable energy by households and businesses;
- increased recycling of waste; and
- climate-suitable landscaping, incorporating water sensitive design principles and more attractive and safer public urban spaces.

2.2 Climate change

The built environment has the potential to deliver cost effective approaches to climate change mitigation and adaptation. To realise this potential our urban areas need to be planned and built to minimise risks from events such as bushfires and flooding, in build resilience, reduce consumption of land and natural resources as well as reducing their greenhouse gas emissions by moving to renewable energy resources. As demonstrated by recent events around Australia, floods and bushfire can dramatically affect the economy, productivity, self-sufficiency and mental health of communities on a local, national and global level.



2.3 Planning context

Previously, land use planning within the Greater Bunbury, on a strategic level, has been guided by the Greater Bunbury Structure Plan which formed part of the Bunbury Wellington Region Plan (WAPC, 1995).

The *Greater Bunbury Strategy 2013* supersedes the portion of the Bunbury Wellington Region Plan that relates to land use within the Shires of Harvey, Capel and Dardanup and the City of Bunbury. The Strategy will form part of Statement of Planning Policy No. 1: State Planning Framework. The outcomes of the *Greater Bunbury Strategy 2013* will be implemented through the relevant statutory documents, being the Greater Bunbury Region Scheme and Local Planning Strategies and Schemes.

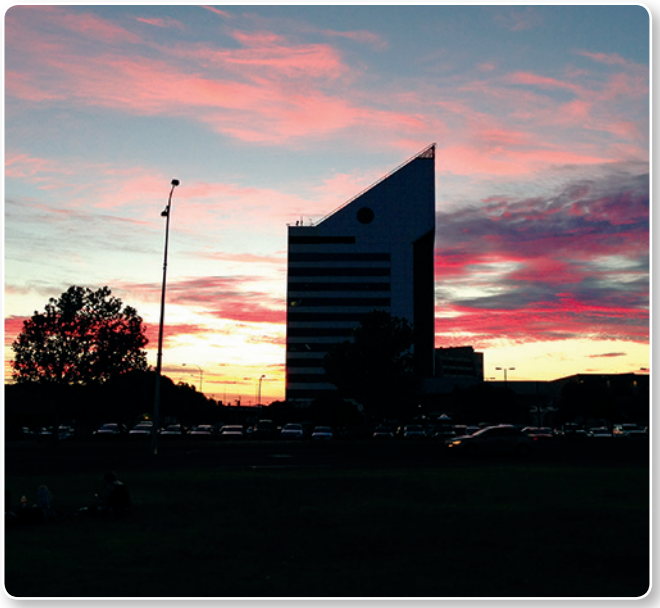
The *Draft Greater Bunbury Strategy 2011* was prepared by the Department of Planning in collaboration with the local governments of Bunbury, Capel, Dardanup, and Harvey and in consultation with key State Government agencies and service providers. The draft Greater Bunbury Strategy document was advertised for public comment between June and October 2011.

The purpose of the Greater Bunbury Strategy is to provide a strategic planning framework that gives clear direction for the planning and management of urban growth to at least the year 2026. This plan addresses the key elements within the Greater Bunbury sub-region to inform and guide the:

- preparation of strategic and statutory plans and policies by landowners, land developers and infrastructure providers, and by certain State government agencies; and
- consideration for the approval processes of district and local structure plans by State government agencies, local governments and the WAPC.

The Greater Bunbury Strategy is not a statutory plan, but a strategic document that aims to guide the planning and management of growth and development via a broad set of policy principles and responsibilities. The Greater Bunbury Strategy should be read in conjunction with the *Draft Greater Bunbury Strategy, The Report on Submissions – What was said about the draft Greater Bunbury Strategy* (2011), other Western Australian Planning Commission strategic and statutory policies, plans, strategies and schemes, and all other statutory documents and guidelines that provide for a holistic approach to the development of the area. As the role of the Greater Bunbury Strategy is to provide broad overarching direction for the sub-region it is important to consider the local government local planning strategies and schemes for more specific details at a local level. Land development must be considered in a broader context to ensure consistency with the provision of regional infrastructure and services.





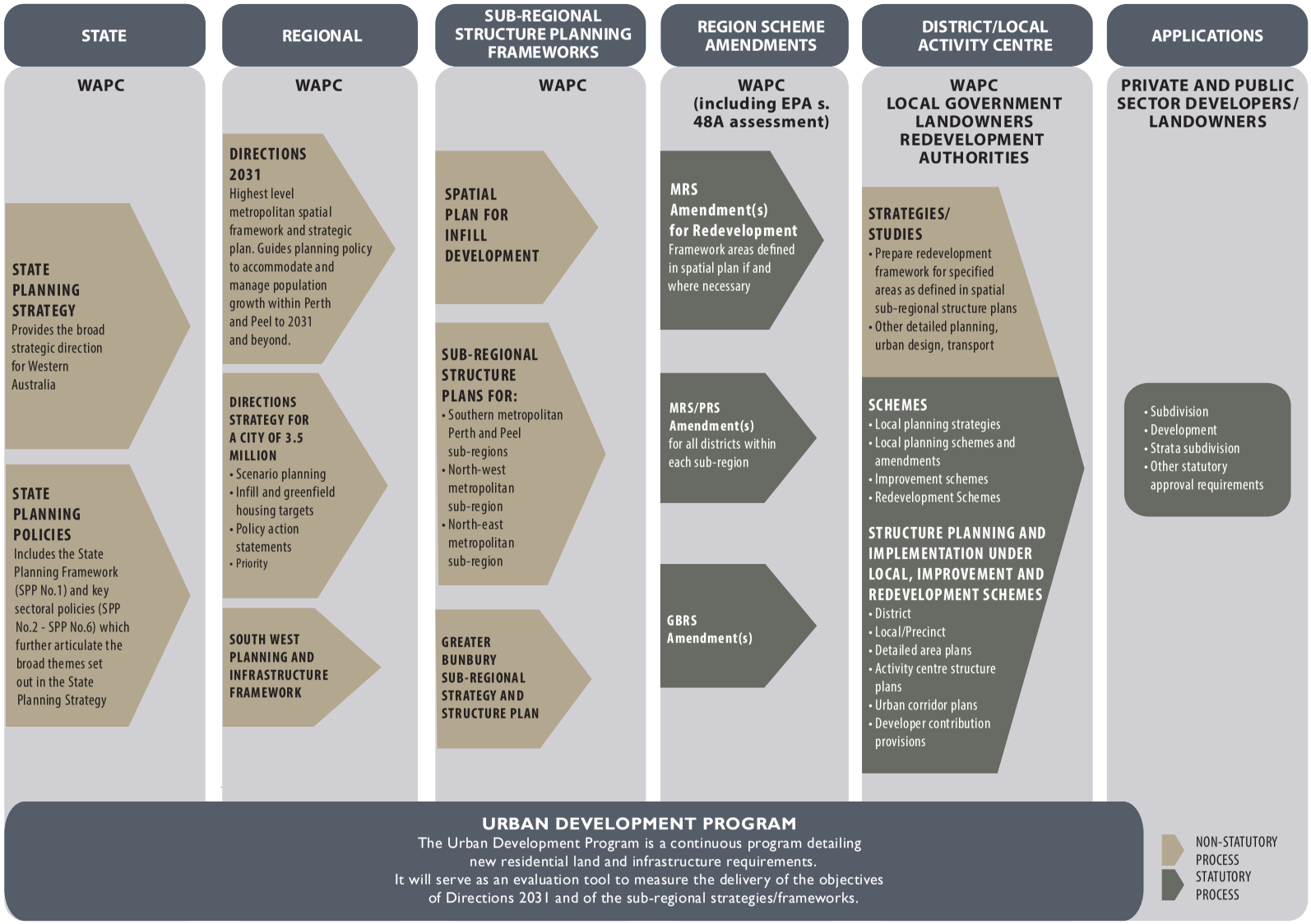


Figure 1: State Planning Framework





2.4 The study area

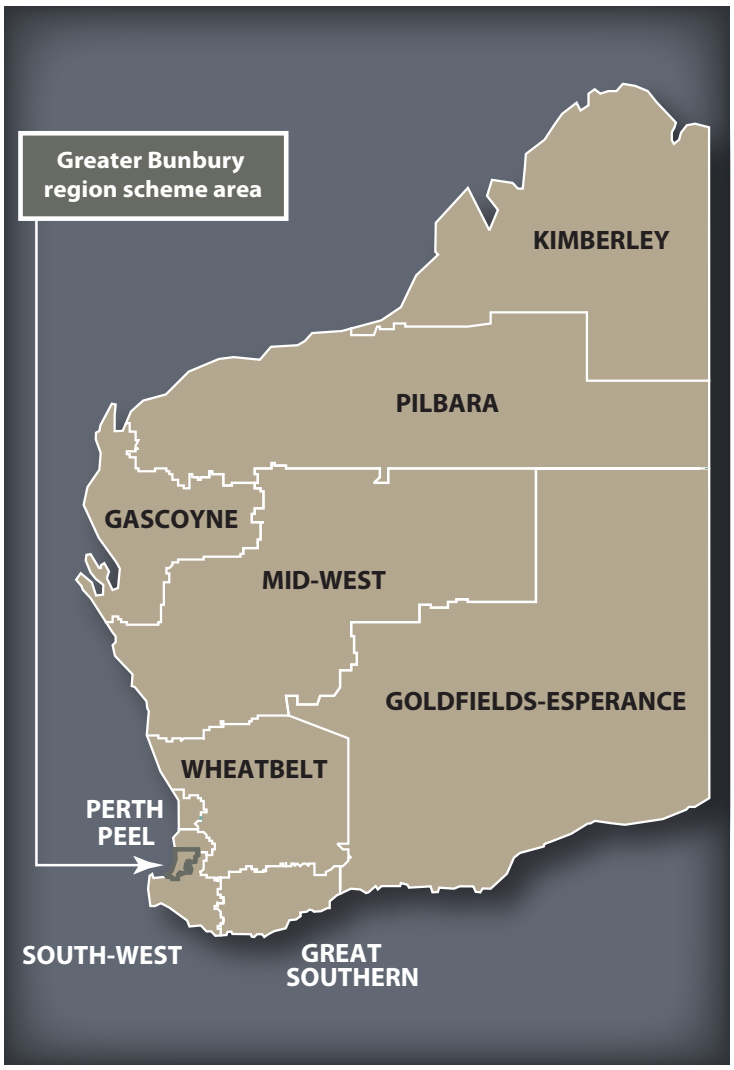
The Greater Bunbury sub-region covers an area of 464,000 hectares comprising four local government areas - the City of Bunbury and the shires of Capel, Dardanup and Harvey. The Greater Bunbury sub-region includes a number of historical towns and Bunbury, which acts as the Regional City of the South West Region. The study area is consistent with the Greater Bunbury Region Scheme boundaries.

The Government is promoting the Greater Bunbury sub-region to be developed as the 'second city' of Western Australia. When considering the future development of the Greater Bunbury sub-region it is important to consider the key elements of growth that have affected Western Australia in its evolution. Since the 1950s, the Perth Metropolitan Region has been guided through periods of growth via the preparation and adoption of successive spatial plans which is not dissimilar to the Greater Bunbury sub-region with the 1987 Bunbury Region Plan and the Bunbury-Wellington Region Plan of 1995, which included the Greater Bunbury Structure Plan. There were a number of consistent themes running through the Perth plans which are especially relevant to the Greater Bunbury sub-region today and include:

- an emphasis on limiting urban expansion;
- concern for the protection of green space;
- the promotion of a series of well-designed places or centres and movement corridors; and
- the need to plan for population and employment growth.

Historically, strategic spatial planning for regional Western Australia has been minimal due to significantly less development pressure than the Perth Metropolitan area. However, due to recent unprecedented development pressure in regional centres including Bunbury, Geraldton, and Karratha, primarily due to mining and gas, the need is apparent for State Government to coordinate urban growth and infrastructure through similar spatial plans. Notably, growth in the other regions of Karratha and Geraldton will compete for funding for projects and infrastructure. Therefore, one aim of this Greater Bunbury Strategy is to contribute towards the prioritisation and rationalisation of development in the Greater Bunbury sub-region when compared to other regions and ensure it attracts adequate and fair government funding.

Figure 2: Map of the Greater Bunbury Region Scheme area in the context of Western Australia





3. Vision and key themes of a compact and connected growth model for the Greater Bunbury sub-region

The Department of Planning proposed an overarching vision for the growth of the Greater Bunbury sub-region.

3.1 Vision

The Greater Bunbury sub-region community will be serviced by an attractive, compact and well-connected city, supported by unique towns that respect the area's rural and environmental heritage and provide a range of housing, lifestyle and employment opportunities. We will be recognised as the second city of Western Australia economically and socially independent, but well-connected to Perth and provide essential key services to residents, visitors and businesses in the South West region.

Over the coming decades economic, business and political forecasts indicate that Western Australia will move into a period of sustained population growth and economic development. The strength of our economy will depend on our ability to build business confidence, attract foreign investment and create jobs.

The economy needs to be built on a diverse economic base which compliments the region's unique environment and rural heritage. Significant investments in roads, rail, port, drainage, water and power networks and public open space will ensure that the Greater Bunbury sub-region will grow while enhancing its unique lifestyle and be an enviable place to live, work and visit.

Investment in public transport infrastructure will define the compact urban form of the city and provide essential linkages to the hinterland towns that provide unique alternative housing, lifestyle and employment opportunities.

The Greater Bunbury sub-region will be prepared to accommodate a greater proportion of the State's population growth by providing social, recreational and employment opportunities which rival larger metropolitan cities, but with the competitive advantage that the South West's natural environment provides. Excellent education opportunities and health and social services will be accessible for the people of the whole South West region.

We will strive to ensure that our future communities:

- are clean, green, productive and distinctive;
- have good public transport, cycling and pedestrian systems;
- are well connected and have adequate supporting infrastructure;
- are equitable, inclusive, safe and prosperous;
- provide access to excellent health care and opportunities for education and learning;
- provide high standards of affordable and diverse housing forms;
- maintain high levels of employment;
- are tolerant and embrace diversity;
- are culturally and intellectually stimulating; and
- give people a sense of identity and belonging.





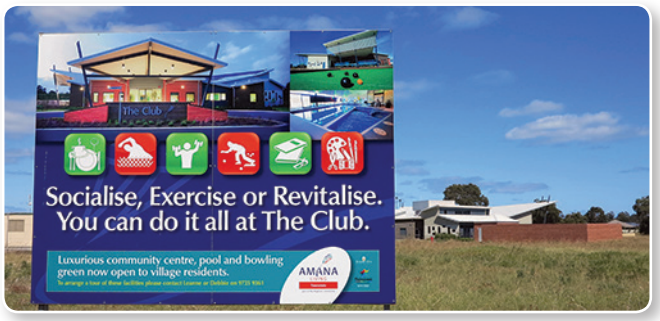
3.2 Key themes and challenges

3.2.1 Themes

Planning in Western Australia is based on the five key themes for a liveable, prosperous, accessible, sustainable and responsible development. A set of outcomes have been developed for the Greater Bunbury sub-region within each theme to guide the spatial framework and inform the development of strategic plans and policies that will underpin its implementation.

Table 1: Key themes

THEME	OUTCOME SOUGHT
Liveable	Living in or visiting the Greater Bunbury sub-region should be a safe, comfortable and enjoyable experience.
Prosperous	Our success as a regional centre will depend on building on our current diversity and prosperity.
Accessible	All people should be able to easily meet their education, employment, recreation, service and consumer needs within a reasonable distance of their home.
Sustainable	We should grow within the social, economic and environmental constraints placed on us.
Responsible	We have a responsibility to manage urban growth and make the most efficient use of available land and infrastructure.







3.2.2 Challenges

For the Greater Bunbury sub-region to achieve and maintain the vision and themes of a 'compact and connected' urban form as the population grows, it is important to acknowledge the site specific constraints and strengths of the area and a number of physical and social challenges need to be considered.

Table 2: Challenges for a liveable Greater Bunbury

LIVEABLE

Living in, or visiting the Greater Bunbury sub-region should be a safe, comfortable and enjoyable experience.

Three strategic priorities have been identified to create 'liveable' communities:

1. Plan for increased housing supply in response to changing population needs;
2. Promote and increase housing diversity, adaptability, affordability and choice; and
3. Create attractive, safe, functional, and well-connected neighbourhoods and towns.

CHALLENGES FOR A LIVEABLE GREATER BUNBURY	DEPARTMENT OF PLANNING RESPONSES
Plan for the delivery of housing for a population of 150,000.	• Identify and facilitate the provision of more than 28,600 additional residential dwellings and supporting infrastructure through infill development, greenfields development and urban expansion.
In the medium to long term, deliver urban expansion areas commensurate with identified need.	• Identify and explore constraints of areas with potential redevelopment and new development opportunities. • Prioritise development to ensure urban expansion occurs in a timely manner in the most suitable locations.
Achieve desirable higher density residential dwellings within walkable catchments of activity centres and public transport corridors in established urban areas. This will provide greater housing diversity, increase the viability of frequent public transport services, provide the impetus for urban regeneration projects and minimise inefficient outward urban growth.	• Identify and promote opportunities for infill development around identified activity centres, places of natural or cultural interest and transport corridors. • Identify and address barriers to infill development. • Identify major redevelopment projects in and around the Bunbury CBD and the role of the State Government and other key stakeholders.
Promote residential development within identified hinterland towns to provide housing choice, utilise available infrastructure and revitalise existing towns, while retaining and enhancing local character and amenity.	• Identify and facilitate opportunities for residential development in hinterland towns. • Encourage the retention of local character, heritage and identity in hinterland towns.
Make efficient use of urban land and infrastructure by increasing densities in greenfield growth areas and restricting the growth of new special residential and special rural areas.	• Encourage and require a mix of residential densities and housing types in greenfield development areas. • Identify maximum lot sizes for single dwelling lots for efficient use of urban land. • Restrict special rural subdivision to areas previously identified in local planning strategies.
Ensure high-quality urban design that recognises local character and amenity, promotes walking and cycling, responds to climate, and addresses community safety.	• Promote best practice urban design, including high-quality passive and active public open space.
Ensure urban development is sustainable/responsible and equitable/inclusive.	• Support and facilitate initiatives designed to increase the sustainability of urban communities. • Support and facilitate initiatives designed to enable effective inclusion and participation in the community for all.
Promote opportunities for affordable housing in close proximity to public transport and employment opportunities.	• Support affordable housing strategies, as appropriate, for identified areas and developments. • Promote infill development and increased densities around activity centres, key areas of interest and public transport corridors to increase housing diversity and affordability. • Support the provision of social housing as part of all new greenfield development in accessible and appropriate locations. • Require consideration of housing diversity, adaptability and affordability in district and local structure planning and local planning strategies.
Encourage the provision of aged care accommodation, social housing and accommodation for people with a disability in appropriate areas.	• Promote and integrate planning for aged care and specialised housing as part of all new greenfield development in accessible and appropriate locations.

Table 3: Challenges for a prosperous Greater Bunbury

PROSPEROUS	
The economy of the Greater Bunbury sub-region is diverse reflecting the range of heavy and general industries in the locality, mining, agricultural landscapes, services for the growing population, key transport links and the influence of Perth. Its success as a regional centre will depend on building on its current diversity and prosperity.	
CHALLENGES FOR A PROSPEROUS GREATER BUNBURY	**DEPARTMENT OF PLANNING RESPONSES**
Provide opportunities and confidence to support job creation that addresses the need for local employment.	• Promote and plan for a diverse mix of services, facilities, activities, amenity and housing types in activity centres to facilitate economic development and employment. • Facilitate and safeguard future employment land to support economic growth and a balanced distribution of employment across the Greater Bunbury sub-region. • Protect and safeguard the potential of productive natural resources and agricultural land. • Acknowledge the importance and influence of employment lands and facilities outside of the Greater Bunbury sub-region (e.g. Collie, Busselton, Greenbushes, Manjimup, Donnybrook, Margaret River) and maintain and enhance connectivity to these areas. • Acknowledge the importance of services provided within the Greater Bunbury sub-region to people outside of the area (e.g. health and education services) and improve connectivity to these areas.
Provide appropriate locations for the growth of employment lands (including retail, commercial, light industry and service industry), minimising conflict between competing land uses in the short and long term.	• Promote and facilitate the increase in levels of employment self-sufficiency in hinterland towns. • Identify and protect land needed for future economic activities which create jobs and economic wellbeing for the area.
Maintain a commercial hierarchy that identifies activity centres and the differing roles between activity centres.	• Identify and allocate a hierarchy of activity centres and locations for a range of economic activities and employment throughout the Greater Bunbury sub-region.
Provide infrastructure to support future growth.	• Identify and protect key infrastructure and service corridors and encourage sustainable innovation.
Protect internal and external transport corridors to ensure capacity for passenger, freight and tourism transport networks.	• Protect and facilitate access to the Bunbury Port for direct access to international markets. • Identify and facilitate appropriate opportunities for road and rail freight movement.
Provide a broader range of tourism, accommodation and conferencing facilities, building on the existing regional assets and infrastructure.	• Promote and support tourism opportunities. • Identify and safeguard primary tourist attractions and accommodation.
Promote the creation of an entertainment and cultural precinct within or near existing regional facilities that will promote all forms of the arts and local history.	• Design of public space for safety, accessibility, flexibility, adaptability and multi-functionality.

Table 4: Challenges for an accessible Greater Bunbury

ACCESSIBLE	
In providing accessible environment in the Greater Bunbury sub-region people should be able to easily meet their education, employment, recreation, service and consumer needs within a reasonable distance of their home.	
CHALLENGES FOR AN ACCESSIBLE GREATER BUNBURY	**DEPARTMENT OF PLANNING RESPONSES**
Infrastructure	• Coordinate and secure significant funding to prioritise, design, acquire land, construct and maintain the desired transport infrastructure. • Improve safety in particular minimise the number and severity of road accidents. • Coordinate an integrated transport network to connect people, places, goods and services. • Provide for efficient freight movement through the region to support economic growth. Identify problem areas and prioritise infrastructure solutions/requirements to alleviate these problems. • Prepare and implement with stakeholders an integrated transport plan that holistically integrates the need for car parking with the public transport network, key areas of interest and amenity, mixed use and residential areas and functioning of activity centres and employment land. • Define, design and protect freight networks and infrastructure requirements. • Support the development of Perth-Bunbury-Busselton Fast Passenger Rail Service, with a station in the Bunbury CBD.
Public transport	• Urban development that promotes low residential densities, cul-de-sac type road networks, car-based designed retail areas and non-contiguous greenfield development is difficult to viably service with public transport due to increased distances needed to be travelled, which increases costs and reduces service frequency. • Deliver and maintain effective, frequent, equitable, accessible and efficient public transport. • Use better public transport networks as the catalyst for the regeneration of key areas. • Improve coordination between stakeholders in relation to the provision and maintenance of public transport facilities such as bus stops. • Improve access and mobility options for people with mobility difficulties and people with disabilities. • Improve safety and security (perceived and actual) when using public transport. Require attractive integration of public transport systems along key streets and activity centres, including interchanges, end-of-trip facilities, pedestrian and cyclist connections and car parking. • Identify key locations and work with stakeholders to regenerate areas along public transport corridors and increase the patronage of public transport. • Ensure that public spaces are safe and well lit and prioritised for pedestrian movement. • Ensure that public spaces are upgraded and/or designed to be accessible for people with mobility difficulties and people with disabilities. • Require that public transport vehicles and interchanges are as accessible as possible for people with mobility issues/disabilities to use.
Reduce reliance on private motor vehicles to improve environmental, health, community and congestion management.	• Ensuring viable means of public transport, and alternative means of transport such as walking and cycling, between homes, activity centres and employment lands, to decrease peoples reliance on private motor vehicles. • Improve the public's perception of, and use of public transport and alternative means of transport such as walking and cycling. • Education programs to encourage a shift to more sustainable transport modes. • Significantly improve the efficiency and effectiveness of public transport throughout the Greater Bunbury sub-region and connectivity to surrounding regions. • Appropriately resource public transport services to ensure that public transport is safe and accessible for commuters, visitors and transport employees. • Identify and promote new and future public transport routes connecting activity centres. • Around identified activity centres, plan and develop transit-orientated development to accommodate mixed use and medium to higher density housing developments. • Plan and develop urban corridors to accommodate higher density housing development with good access to public transport systems. • Increase the number of people living within walking distance of major public transport routes (spines). • Improve footpath and bicycle path connectivity through the Greater Bunbury sub-region.

Table 5: Challenges for a sustainable Greater Bunbury

SUSTAINABLE	
We should grow within, and respect the constraints placed on us by the environment we live in.	
CHALLENGES FOR A SUSTAINABLE GREATER BUNBURY	**DEPARTMENT OF PLANNING RESPONSES**
Provide a sustainable total water cycle management approach for residential, employment and environmental water purposes in keeping with The Better Urban Water Management Framework and State Planning Policy 2.9 - Water Resources.	• Protecting water catchment areas and public drinking watersource areas from inappropriate development. • Investigating alternative water sources that are sustainable in the longer term. • Reduce waste generation and encourage reuse and recycling, to a level that is 'fit for purpose'. • Improve water efficiency through education and innovative technology. • Work with stakeholders to identify and upgrade infrastructure to manage climate change and increased densities, including: groundwater, sewer, water, drainage and stormwater management. • Coordinate large scale opportunities for water recycling and reuse, such as major wastewater treatment facilities at Kemerton with water being cleaned to a standard fit for purpose and reused for industrial, agricultural, landscaping and domestic use.
Protect and enhance biodiversity.	• Identify and protect the health of the Greater Bunbury sub-region's rivers, wetlands, underground water sources, and the Leschenault Estuary and Inlet, and quality remnant vegetation from inappropriate development. • Seek and secure funding in conjunction with relevant stakeholders so that appropriate land for conservation and biodiversity can be identified, acquired and managed in the long-term. • Effectively engage with and resource community groups. • Ensure that development occurs in a way that safeguards and enhances the existing environmental, biodiversity and scenic assets. • Better manage natural hazards within new developments, including flooding, coastal erosion and inundation, bushfire hazard and acid sulfate soils.
Maintain acceptable air quality.	• Minimise private car use. • Allocate appropriate locations for polluting industries, with corresponding buffer zones. • Encourage innovation and efficiency in design.
Ensure the sustainable management of productive agricultural land and the protection of rural landscapes.	• Define and protect priority agricultural areas from inappropriate development. • Ensure the sustainable management of natural resources and the protection of rural landscapes, particularly when viewed from public areas such as regional roads.
Minimise the impact of climate change.	• Invest in identifying and understanding the anticipated risks and impacts of climate change. • Agree and fund with local government, fire and emergency services and other relevant stakeholders, our approach to managing climate change impacts. • Identify areas at risk where new development should not be permitted. • Encourage investment and mitigation to allow the community to adapt to climate change risks. Encourage retrofitting and resistance and resilience measures where necessary. • Increase public awareness of risks and measures to minimise the risks. • Minimise production of carbon dioxide and greenhouse gases.
Lack of suitable fill for new greenfield development with drainage issues.	• Minimise the amount of greenfield development required by maximising urban consolidation. • Investigate the development of alternative building techniques that minimise the amount of fill required for both residential or industrial development. • Identify and safeguard resources required for extractive industry, future fill requirements and construction.
Appropriately conserve and protect heritage items and values including Aboriginal and European culture and incorporate these values within land use planning and natural resource management processes.	• With relevant stakeholders identify and protect valued heritage assets from inappropriate development. • Optimise the land use and transport conditions that create vibrant, accessible, healthy and adaptable communities.



Table 6: Challenges for a responsible Greater Bunbury

RESPONSIBLE	
We have a responsibility to manage urban growth and make the most efficient use of available land infrastructure. It is important to consider the opportunities for infill development as a significant contributor to the growth of the Greater Bunbury sub-region. This reduces the amount of greenfield sites lost to other economic activities and utilises infrastructure that is not currently operating at capacity.	
CHALLENGES FOR A RESPONSIBLE GREATER BUNBURY	**DEPARTMENT OF PLANNING RESPONSES**
Predict future population housing, servicing and employment needs.	• Propose high and conservative population estimates based on potential future scenarios. • Identify 15 years of land zoned for Urban or Urban deferred. • Identify 10 years of land zoned for Urban expansion or Investigation. • Identify equitably distributed employment lands. • Work with relevant stakeholders to improve the timing and coordination of infrastructure.
Adequately and efficiently provide service infrastructure for the future.	• Identify needs and secure locations for future key infrastructure servicing. • Improve the timing and coordination of economic infrastructure. • Retrofit key infrastructure so it is resilient and adaptable to climate change and future pressures. • Work holistically in the provision of infrastructure and services to maximise long-term efficiency and delivery of services. • Upgrading of existing infrastructure within the existing urban area to manage climate change and increased densities. e.g. sewer, water, drainage, underground power. • Encourage the development of more sustainable infrastructure servicing processes.
Provide opportunities for those in the community who are disadvantaged.	• Plan for an accessible, efficient and equitable distribution of social infrastructure.



4. Sustainability criteria for proposed urban expansion and investigation areas

While land already zoned is considered first priority for new development, Table 7 shows the criteria that applies for any new proposed urban expansion and investigation areas.

Table 7: Sustainability criteria for urban expansion and investigation areas

CRITERIA	MEASURABLE EXPLANATION
Infrastructure provision Mechanisms in place to ensure utilities, transport, open space and communication are provided in a timely and efficient way.	• Infrastructure planned and delivered in a timely and efficient manner to meet demand.
Access Accessible transport options for efficient and sustainable travel between homes, jobs, services and recreation to be existing or provided.	• Accessibility of the area by public transport and/or appropriate road access in terms of: · Infrastructure planned and delivered in a timely and efficient manner to meet demand; · location/land use – to existing networks and related activity centres; · network – the area's potential to be serviced by economically efficient transport services; · catchment – the area's ability to contain, or form part of the larger urban area which contains adequate transport services, capacity for land use/transport patterns to make a positive contribution to achievement of travel and vehicle use goals; and · no net negative impact on performance of existing sub-regional road, bus, rail and freight network.
Housing diversity **P**rovide a range of housing choices to ensure a broad population can be housed.	• Contributes to the geographic market spread of housing supply, including the aged, disabled or affordable housing.
Employment lands Provide regional/local employment opportunities to support the region's and States economies.	• Maintain or improve the existing level of sub-regional employment self-containment. • Meets sub-regional employment projections. • Employment-related land is provided in appropriately zoned areas.
Avoidance of risk Land use conflicts, and risk to human health and life, avoided.	• Avoidance of physically constrained land e.g. high slope, highly erodible. • Avoidance of land use conflicts with adjacent or existing or future land use as planned under relevant subregional or regional strategy. • Where relevant, available safe evacuation route (flood and bushfire).
Quality and equity in services Quality health, education, legal, recreational, cultural and community development and other government services are accessible.	• Available and accessible services: · do adequate services exist? · are they at capacity or is some capacity available? · has Government planned and budgeted for further service provision? · is developer funding for required service upgrade/access available?



CRITERIA	MEASURABLE EXPLANATION
Natural resources	• Natural resource limits not exceeded/environmental footprint minimised. Demand for water within infrastructure capacity to supply water and does not place unacceptable pressure on environmental flows. • Demonstrates most efficient/suitable use of land by avoiding: · identified significant agricultural land; and · productive resource lands – extractive industries, mining and forestry. • Demand for energy does not place unacceptable pressure on infrastructure capacity to supply energy – requires demonstration of efficient and sustainable supply solution.
Environmental protection	• Protect and enhance biodiversity, air quality, heritage and waterway health. Maintains or improves areas of regionally significant terrestrial and aquatic biodiversity. This includes regionally significant vegetation communities, critical habitat, threatened species, population, ecological communities and their habitats. • Maintain or improve existing environmental condition for air quality. • Maintain or improve existing environmental condition for water quality so that it is consistent with: · community water quality objectives for recreational water use and river health; and · catchment and stormwater management planning. • Protects areas of Aboriginal cultural heritage value.



5. Greater Bunbury Structure Plan 2013

The *Greater Bunbury Structure Plan 2013* identifies land ahead of the rezoning process so that future development can occur in a logical manner in response to future growth trends. In considering the long-term implications for a population of 150,000 in the Greater Bunbury sub-region, an Urban Expansion area has been identified along with several Urban Investigation areas and Industrial Expansion areas.

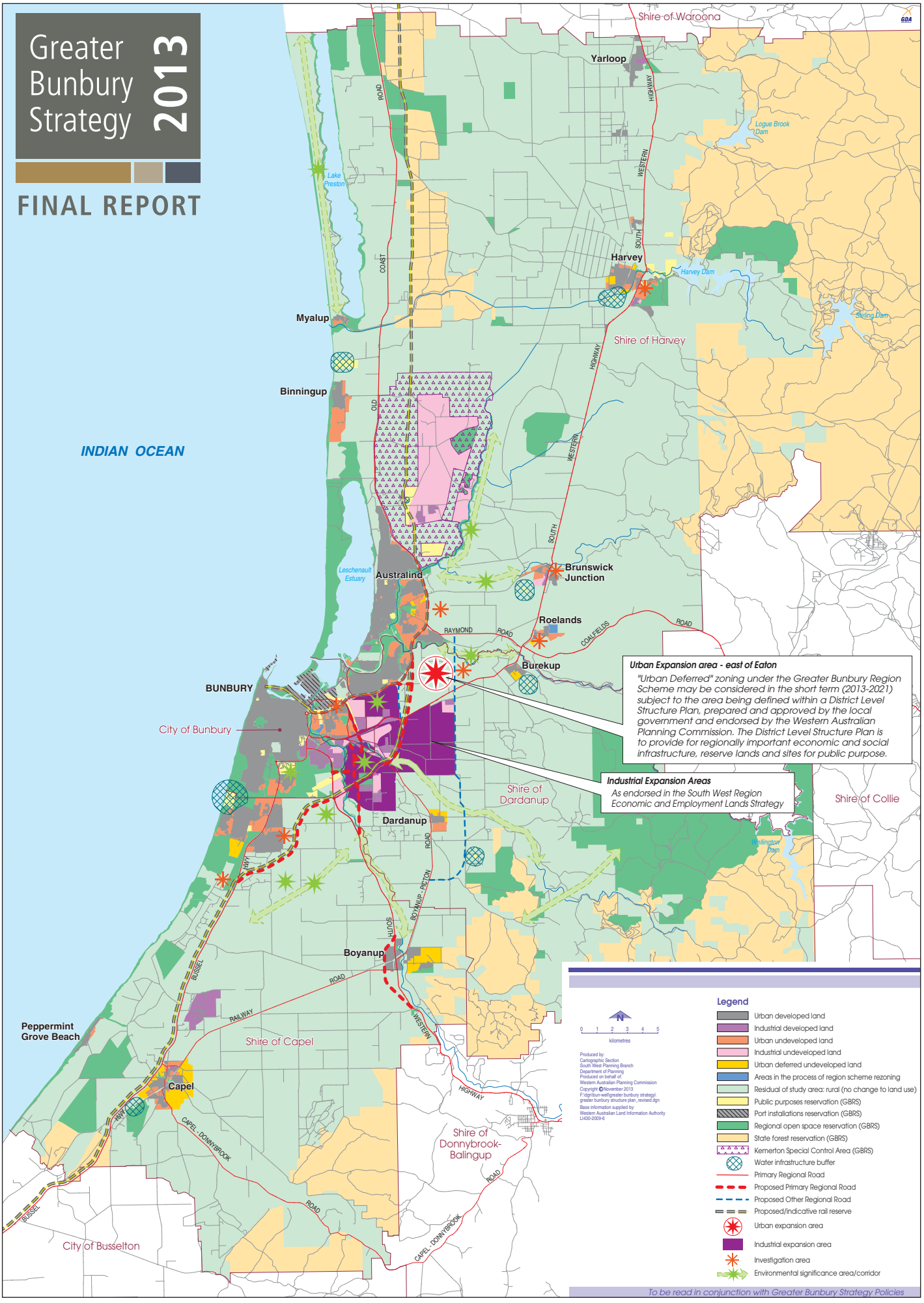
The Greater Bunbury Structure Plan was developed through a process of:

- consultation with community representatives was undertaken to develop a vision and to select the preferred growth pattern;
- climate change and other risk mapping;
- analysis of current land supply and growth trends, including scenario planning for a population of 150,000 to provide a broad indication of how different levels of demand for housing will result in different land and housing requirements from infill and greenfield development;
- desktop opportunities and constraints analysis for areas identified for urban expansion and investigation, which considered land capability, water and environmental constraints, transport links, access to community services and employment and the identification of other potential fatal flaws; and
- consultation with infrastructure agencies and public utilities to consider the feasibility and other constraints to servicing areas identified for urban expansion and investigation. This consultation with State Government planning, development and infrastructure agencies and local government will be ongoing as plans progress.



The Greater Bunbury Structure Plan is considered to reflect the principles of a compact and connected city as it:

- promotes a balance between greenfield and infill development;
- protects and enhances waterways, heritage areas, remnant vegetation, the majority of agricultural land and landscape views, which results in increased community wellbeing;
- identifies an Urban Expansion area and Investigation areas that are contiguous with the existing urban area and are in close proximity to employment and recreational opportunities;
- promotes connectivity through the development of key public transport infrastructure which will encourage urban development along transport and urban corridors through transit-oriented development, and will provide better access to services;
- will promote a diversity in housing and therefore provides affordability and choice in lifestyles available within the Greater Bunbury sub-region; and
- maximises essential service infrastructure efficiency and equity by minimising the distances the infrastructure needs to spread.



Map: Greater Bunbury Sub-regional Structure Plan 2013



5.1 Policies of the *Greater Bunbury Strategy 2013*

Settlement and growth

1. The settlement hierarchy for the Greater Bunbury sub-region is provided in the *South West Planning and Infrastructure Framework*. Bunbury will continue to be the Regional Centre in the settlement hierarchy in the Greater Bunbury sub-region, and will cater for the majority of residential, large scale commercial, key community services and other urban development within the Greater Bunbury sub-region.
2. In the short to medium term, residential infill and greenfield development with already zoned urban and urban deferred zoned land will be strongly encouraged within Bunbury and the existing hinterland towns of Harvey, Brunswick, Burekup, Boyanup, Dardanup and Capel. Development shall occur so that the existing hinterland towns remain distinct and separate towns, rather than joining to become an urban agglomeration. Small scale expansion of commercial, light and general industry is also encouraged in these towns to encourage a range of local employment opportunities.
3. In the short-term the Urban Expansion areas identified on the Greater Bunbury Strategy will only be considered for rezoning to Urban under the Greater Bunbury Region Scheme when a district level structure plan has been prepared in conjunction with the local government and servicing industries and endorsed by the Western Australian Planning Commission (WAPC). The district level structure plan will demonstrate transit-orientated design, incorporating a regional passenger rail station and public transport interchange, while safeguarding enough land for regionally important state infrastructure and public purposes. The District Level Structure Plan will embed sustainability outcomes and include commitments to best practice relating to building design, energy generation and efficiency, water management and supply including water sensitive design and onsite water capture and reuse. An average residential density of 26 dwellings net per hectare will be achieved across the structure plan area whilst providing for a range of lot sizes and housing types .
4. Minor Urban Investigation areas, as identified in the Greater Bunbury Strategy, may be considered for rezoning to Urban or Urban Deferred under the Greater Bunbury Region Scheme, subject to Structure Plans being approved by the local government and endorsed by the WAPC.
5. The major Urban Investigation area identified in the Greater Bunbury Strategy (portions of Lots 5, 100, 101, 104 and 131 Treendale) located north of Raymond Road shall not be considered until the medium to long term (beyond the year 2021) once the Urban Expansion area east of Eaton has been significantly developed. Rezoning of this area from Rural to Urban Deferred under the Greater Bunbury Region Scheme cannot occur until a district level structure plan is approved by the local government and endorsed by the WAPC.
6. Industrial Expansion Areas may be rezoned to Industrial Deferred or Industrial under the Greater Bunbury Region Scheme, subject to the findings of the South West Region Economic and Employment Lands Strategy, and subject to a district level structure plan being approved by the local government and endorsed by the WAPC.
7. The settlements of Peppermint Grove Beach, Binningup, Yarloop, Cookernup, Myalup, Roelands, Benger and Wokalup will not expand other than to areas that have already been identified for urban development within the local government's local planning schemes and strategies.

Rural land

8. Rural land is to be retained for primary production, natural resource management and its landscape characteristics that define the rural character of the Greater Bunbury sub-region. No additional Special Rural or similar development will be permitted unless already identified in the Greater Bunbury sub-regional structure plan and the local governments' local planning schemes and local planning strategies.

Public transport

9. Quality public transport hubs, interchanges and supporting facilities shall be integrated into activity centres, along key transport corridors and places of interest. A train station for the proposed Perth-Bunbury-Busselton Fast Passenger Rail service will be integrated into the Bunbury CBD, with a regional park and ride facility integrated east of Eaton.



Activity centres

10. Activity centres shall be in accordance with the Western Australian Planning Commission endorsed *Greater Bunbury Activity Centres Policy,* April 2012. The Planning Commission requires land use diversity within new and existing activity centres by including the provision of civic space, public buildings, retail, commercial, office, consulting, medium to high density residential development, multi-storey car parking, public transport interchanges, under cover bicycle parking and end of trip facilities for pedestrians and cyclists, including any redevelopment or expansion of an existing activity centre. All these components must be included in an activity centres plan adopted by the local government and endorsed by the WAPC.

Regional perspective

11. The Greater Bunbury Strategy recognises the importance of Perth as the capital city of Western Australia and supports the provision of infrastructure for services to support Perth's growth and the State's growth, including:
    - water supply and transfer infrastructure, such as the desalination plant and storage at Harvey Dam;
    - sand and fill for development and construction;
    - food supply;
    - waste management;
    - port facilities;
    - road and rail transport for freight movement and passengers;
    - mineral resources;
    - energy production and transmission from Collie and Kemerton and alternative sources such as the proposed wind farms on the south coast; and
    - the location of key infrastructure corridors that may be required.
12. Major Expansion areas and Investigation areas are to be linked by an integrated road system (Blue Roads under the Greater Bunbury Region Scheme) that provides connectivity between residential areas and access to employment lands.
13. There is a general presumption against clearing of remnant vegetation, except where essential infrastructure is required and then appropriate offsets will be required.
14. The Greater Bunbury Strategy supports the consultation with the custodians of sites of Aboriginal cultural heritage significance.

Infill development

15. The Greater Bunbury Strategy strongly promotes higher residential densities and infill development in all areas of exiting developed land, not only in Bunbury but also the hinterland towns. This provides the opportunity for housing diversity, housing affordability, urban regeneration and revitalisation, as well as providing a more attractive urban environment.
16. The Greater Bunbury sub-regional Structure Plan will be reviewed every five years to ensure that there is adequate flexibility to respond to growth patterns.

5.2 Structure plan categories

The *Greater Bunbury Structure Plan 2013* determines the availability of existing Industrial, Urban and Urban Deferred zoned land; areas for expansion; and future investigation areas according to eight land use categories relevant to the Greater Bunbury Region Scheme.

1. **Urban developed land**
   Land currently zoned urban and is developed.
2. **Industrial developed land**
   Land currently zoned industrial and is developed.
3. **Urban undeveloped land**
   Land currently zoned urban and not yet developed.
4. **Urban deferred undeveloped land**
   Land currently zoned urban deferred and not yet developed.
5. **Urban expansion areas**
   Areas of rural land identified as potential urban



expansion areas for rezoning in the short to medium term (2013 to 2021) subject to statutory rezoning processes.

6. **Industrial expansion area**

   Areas of rural land identified as potential industrial expansion areas for rezoning in the subject to statutory rezoning processes.

7. **Investigation areas**

   Rural land to be investigated for potential rezoning in the medium to long term subject to assessment and the statutory rezoning processes.

The short to medium term priority is to more efficiently use existing Urban Developed land, and Existing Urban or Industrial undeveloped land. Whilst Urban Expansion areas and Investigation areas have been identified, it should not be assumed that these areas will be developed prior to a demonstrated need for this type of development.

The Urban Expansion area does not restrict the area to residential development only. Given the size of the proposed area it represents, a new town and any planning must identify employment lands, activity centres, social infrastructure and recreational facilities as well as major road alignments. In the area east of Eaton, any planning will need to incorporate the transition from industrial land uses located in the south.

5.3 Urban Expansion area

The area east of Eaton was chosen to be the primary urban expansion area because:

- the site is close to the Bunbury CBD and a number of direct transport links to the Bunbury CBD and other employment areas are available, including the Primary Regional roads of the South West Highway, the Australind Bypass and the future Bunbury Outer Ring Road and regional passenger rail links;
- the site is contiguous to the established residential suburb of Eaton and employment lands such as the Waterloo and Preston industrial estates - development of the urban expansion area east of Eaton and the industrial estate in Waterloo is expected to provide a number of infrastructure synergies;
- efficient and safe transport options (walking, bicycling, motor vehicles, and public transport) can be provided between the surrounding residential and employment lands;
- with appropriate structure planning it can demonstrate a high degree of urban containment, providing over 28,600 dwellings, with connectivity to social infrastructure of State significance in a self-sufficient and predominately walkable network;
- infrastructure providers have agreed that this area is the next logical development front for infrastructure provision;
- it facilitates co-servicing of adjacent employment lands, providing the optimal return on investment for state infrastructure investment;
- the Perth–Bunbury fast passenger train station and regional park and ride facility will be provided within the area, and this provides a catalyst for the desired urban form;
- the site east of Eaton is clearly bounded and will allow the historic hinterland towns of Dardanup, Burekup and Roelands to maintain their individual town identities and rural outlook, without becoming part of an urban agglomeration; and
- the site has minimal environmental constraints (remnant vegetation, flood risk, bushfire, mosquitos, storm surge) when compared to other sites that were considered.



5.4 Industrial Expansion areas

The preferred Industrial Expansion areas were identified through detailed investigations carried out as part of the South West Region Economic and Employment Land Study.

5.5 Investigation areas

These areas are considered to have planning merit as they provide a logical extension of existing urban areas, bound by a defining boundary. However, each of the sites has various constraints that need to be overcome or negotiated before development can progress.

Table 8: Investigation areas and their constraints

LOCATION	MAJOR CONSTRAINTS TO BE NEGOTIATED PRIOR TO LOCAL STRUCTURE PLANS BEING APPROVED.
Shire of Harvey – (portions of lots 5, 100, 101, 104 and 131 Treendale) - major Urban Investigation area	• Development to be staged so that it is not commenced before significant development has occurred within the urban expansion area east of Eaton (+2021). • Road access. • Regional open space. • Rail infrastructure. • Subject to detailed district level structure planning being approved by the local government and endorsed by the WAPC. • Rezoning of the land under the Greater Bunbury Region Scheme from Rural to Urban Deferred to Urban.
Shire of Capel – Lot 156 Marchette Road, Lot 2 Jules Road and Ducane Road and Lot 155 Ducane Road.	• Location and construction of the Bunbury Outer Ring Road. • Remnant vegetation constraints.
Shire of Capel - lots 120 and 121 Minninup Road, Dalyellup (formerly Killerby Winery)	• Road access. • Regional open space.
Shire of Harvey - Lot 42 and 61 Government Road and Lot 7 Waterloo Road, Roelands	• Road access. • Rail infrastructure and crossings. • Irrigation channels.
Shire of Harvey – Roelands townsite expansion	• Road access. • Rail infrastructure and crossings. • Details to be considered and finalised in the local planning strategy.
Shire of Harvey – Brunswick Junction townsite expansion	• Rail infrastructure and crossings. • Details to be considered and finalised in the local planning strategy.
Shire of Harvey – Harvey townsite expansion	• Details to be considered and finalised in the local planning strategy.



The non-residential areas below have considerable development pressure but have significant constraints which require further investigation and negotiation in order to determine their development potential.

LOCATION	MAJOR CONSTRAINTS TO BE NEGOTIATED PRIOR TO IDENTIFICATION FOR URBAN EXPANSION AND STRUCTURE PLANNING.
Lots 4,5,6,7,8,9, Pt12, 17, 25, 26 and 52 Newton and Ince roads, Vittoria	• Remnant vegetation. • Road access. • Future rail reserves. • Potential river realignment.
Preston Industrial Park	• Remnant vegetation. • Road access. • Rail access.



6. Governance and implementation

It is intended that the Department of Planning and the Western Australian Planning Commission will have an ongoing and lead role in facilitating the implementation of this strategy over the short and medium terms. Cooperation between local governments, government agencies and the private sector will be critical and will actively be encouraged in the implementation of the Greater Bunbury Strategy.

A number of tasks and actions that the Department of Planning will be involved in have been identified to deliver a compact and connected Greater Bunbury (Table 9). The prioritization of these projects is guided in the *South West Planning and Infrastructure Framework*. The final decision regarding government investment and priorities lies with State Treasury.

6.1 Future tasks

Table 9: Future tasks

The Department of Planning will be involved in the following key projects in order to deliver the objectives of the Greater Bunbury Strategy.

NO.	ACTION	DESCRIPTION	IMPLEMENTATION PARTNERS	TIMEFRAME
1	South West Planning and Infrastructure Framework (SWPIF)	Implementation of the SWPIF. Develop and prioritise means of implementation and delivery of key projects for Greater Bunbury.	• Department of Planning • South West Region Planning Committee • Infrastructure Planning Committee • Department of Treasury • Bunbury Wellington Economic Alliance • Main Roads Western Australia • Public Transport Authority • Veolia Transport and/or other providers • Chamber of Commerce and Industry • South West Development Commission • Harvey Water • Department of Sport and Recreation • Department of Housing • Department of Education • Local governments • Department of Water • Other relevant service providers	Implementation: Short to long term
2	Review of local governments' local planning strategies and local planning schemes	Review to ensure that local planning strategies are current and reflect Western Australian Planning Commission policies and the Greater Bunbury Strategy.	• Local government • Department of Planning	Short-term
3	Urban infill implementation plan	Comprehensive investigation and assessment of how urban infill can be implemented and delivered as required to support the growth of a compact and connected Greater Bunbury including: • delivery of an effective public transport system; increasing residential densities; quality urban design; accessibility and equitability; forward provision of infill infrastructure to facilitate the plan including sewerage, power, telecommunications and broadband due to aging infrastructure and increased demand, pressure and discharges; water sensitive urban design and stormwater and drainage management to cope with increased hard surfaces, increased flows and effects of climate change; • identification of priority areas; • linkages to activity centres and services; • incentives to reduce private vehicle use; and • mechanisms for infrastructure such as power, water, sewerage, public open space, schools, drainage to be upgraded to be able to cope with the additional population and corresponding demand in infill areas.	• Local government • Private developers • Chamber of Commerce and Industry • South West Development Commission • Public Transport Authority • Veolia Transport and/or other providers • Housing industry • Landowners • Department of Water • Western Power • AqWest • Water Corporation	Study: Short-term Implementation: Short to medium term

NO.	ACTION	DESCRIPTION	IMPLEMENTATION PARTNERS	TIMEFRAME
4	Risk management and mitigation	Comprehensive review of risks and development of mitigation strategies for: • climate change; • flooding; sea level rise, building on the work of the Peron-Naturaliste Partnership; and • bush fires; water shortages; emergency planning; and community education programs and awareness raising.	• Department of Fire and Emergency Services • Local government • State Government • Federal Government • Private landowners	Study: Short-term Implementation: Short to medium term
5	Regional open space and areas of environmental significance	Comprehensive assessment and implementation and ongoing funding and management of potential regional open space and areas of environmental significance to protect natural resources and support the growth of a compact and connected Greater Bunbury including: • wetlands; • estuary; • coastal dune systems; • water courses; • remnant vegetation; • land acquisition; • long term management responsibilities and funding; • identification of priority areas that could be considered for rehabilitation and ongoing management as part of an environmental offsets program; • district and regional level playing fields; and • the finalisation of the Preston River to Ocean Regional Park and an equivalent regional park established to the north of Bunbury city.	• Department of Water • Department of Parks and Wildlife • Local community groups • Local government • Department of Sport and Recreation	Study: Short Implementation: Short to long term
6	Sub-regional tourism study	Comprehensive assessment and implementation of tourism infrastructure required to support the growth of a compact and connected Greater Bunbury including: • accommodation options ranging from caravan parks to hotels; • regionally important attractions; and • heritage signage and trails.	• South West Development Commission • Tourism Commission • Local government	Study: Short-term Implementation: Short to medium
7	Local transport study for Greater Bunbury	Publication and implementation of the study.	• Department of Planning • Local government • Main Roads Western Australia • Veolia and/or other service providers • Public Transport Authority • Cycle clubs • Department of Transport	Study: Short-term Implementation: Short to long term

NO.	ACTION	DESCRIPTION	IMPLEMENTATION PARTNERS	TIMEFRAME
8	South West Economic and Employment and Lands Study	Publication and implementation of the study.	• Department of Planning • South West Development Commission • LandCorp • Department of Agriculture and Food	Study: Short-term Implementation: Short to long term
9	*Activity Centres for Greater Bunbury Policy* (2012)	Implementation of the *Activity Centres for Greater Bunbury Policy* (2012).	• Local government • Private developers • South West Development Commission • Public Transport Authority • Veolia Transport and/or other service providers	Implementation: Short to long term
10	Housing	Comprehensive assessment and implementation of housing required to support the growth of a compact and connected Greater Bunbury including: • social housing; • aged care; • housing for people with disabilities; • retirement housing; • affordable housing; and • sustainable housing design including building alternatives to cut and fill.	• Local government Department of Housing • South West Development Commission	Study: Short-term Implementation: Short to long term
11	Bunbury central business district urban design and improvement plan	Development of an improvement plan for the Bunbury CBD including the integration of forward planning for the upgrading of essential services to cater for additional people. e.g increased amounts of sewerage, stormwater, increased power demands, increased demand for telecommunications including: • broadband; • increased residential densities; • increased commercial floor space; • flood mitigation; • car parking; • public transport; • quality multifunctional public space; • drainage; • affordable housing; • social housing and housing for people with disabilities; • community services; • signage and way finding between features, key services and tourist attractions; and • creation of an attractive destination.	• City of Bunbury • Chamber of Commerce and Industry • South West Development Commission • Landowners	Study: Short-term Implementation: Short to long term

NO.	ACTION	DESCRIPTION	IMPLEMENTATION PARTNERS	TIMEFRAME
12	Water management	Preparation and implementation of a sub-regional water management plan including: • management of stormwater and events associated with climate change; • total water cycle management; • surface and groundwater investigations; • mapping of resources, catchment ecosystems and drainage and water dependent environments; • water source planning; and • investigation of major expansion of wastewater recycling at industrial development areas for sewerage as well as industrial waste water for reuse in industry, landscaping, irrigation and other uses deemed appropriate.	• Department of Water • Department of Parks and Wildlife • AqWest • Water Corporation • Local government • Harvey Water	Study: Short-term Implementation: Short to long term
13	Coastal management	Preparation and implementation of a coastal management plan including: • taking into account the anticipated impacts of climate change such as rising sea levels, storm surge, effect on biodiversity; and • establish means of ongoing funding and management especially opportunities for local community groups.	• Local governments • Department of Environment and Conservation • Local community groups	Study: Short-term Implementation: Short to long term
14	Basic raw materials	Preparation of a basic raw material strategy for the Greater Bunbury sub-region having due regard to the needs of the South West, Perth and Peel regions.	• Department of Planning • Department of Mines and Petroleum	Study: Short-term Implementation: Short to long term
15	Agriculture	Preparation of an agricultural futures policy to have regard to the future needs for agricultural land resource and identify economic activity opportunities and for long-term food security needs of the State.	• Department of Agriculture and Food • South West Development Commission • Bunbury Wellington Economic Alliance • Department of Planning	Study: Short-term Implementation: Short to long term
16	Environmental offset strategy	Prepare a plan that identifies and locates areas that are suitable for consideration for inclusion in environmental offsets to assist the future development of the South-West region.	• Department of Planning • Department of Parks and Wildlife • Department of Water	Study: Short-term Implementation: Short to long term







6.2 Monitoring and review

This Greater Bunbury Strategy will be reviewed every five years or as circumstances require. The Department of Planning will measure the effectiveness of government policies and monitor investment to deliver the desired outcomes. Land supply will be monitored annually through the Urban Growth Monitor. This will inform review of the Urban Expansion Plan, which will be reviewed at least every five years to respond to significant changes in land supply, population growth and other impacts on the demand for land.

The recently established Office of Land and Housing Supply will provide up-to-date data to inform the review of the *Greater Bunbury Structure Plan 2013*, which will ensure that each successive expansion plan identifies land sufficient to cater for a 10 year buffer to ensure an ongoing pipeline of 15 years land supply. This office was set up by the State Government to provide government with timely information on land and housing supply and clarification on key impediments.

Urban development program

The Department of Planning's Urban Development Program will serve as an evaluation tool to measure the delivery of the key aims of the Greater Bunbury Strategy.

The Urban Development Program aims to deliver:

- a more effective use of urban land;
- better staging of development; and
- prioritisation of infrastructure spending to support priority urban development.

The Department of Planning, through the Urban Growth Monitor will monitor development in Western Australia's urbanised areas including:

- urban zoned land supply;
- consumption of urban zoned land;
- subdivision activity;
- region scheme amendments;
- vacant lot stock; and
- strategic planning in progress.

The delivery of the Urban Development Program through the Infrastructure Coordinating Committee of the Western Australian Planning Commission is underway. The Department of Planning will work with local governments and other stakeholders to identify a series of preferred locations for infill development together with indicative development timeframes; and it will monitor the spatial distribution of new dwellings in relation to those areas identified for intensification.

The Department will also use subsequent census collection periods and data collected by the local governments to validate this information to assess whether the strategic intentions of the Greater Bunbury Strategy are being delivered in terms of population and housing. Other targets will be measured as guided by the State Planning Strategy.



6.3 Performance indicators

The Department of Planning has developed a set of draft performance indicators to determine the suitability of areas for future urban development. All areas identified in the *Greater Bunbury Strategy 2013* that are proposed for rezoning to Urban or Urban Deferred will need to specifically address how they will meet the draft performance indicators against the following criteria.

1. The proposal demonstrates compliance with the Western Australian Planning Commission's planning framework, including any relevant policies and endorsed strategies.
2. The proposed area represents a logical expansion of the urban area and does not result in land use conflict.
3. The land is capable of being provided with essential services and that the expansion of the servicing infrastructure is logical and economically efficient and has the agreement of the service providers with regard to the staging and financing of the infrastructure.
4. The development of the area will not have significant impacts on the environment and natural resources which cannot be appropriately managed.
5. The proposal is able to integrate and provide for regional needs. e.g. movement networks such as road, rail and public transport, and regional social infrastructure such as hospitals and tertiary institutions.
6. The proposed area satisfactorily demonstrates through an employment strategy where the resulting community's employment will be located and the degree of self-sufficiency that could be achieved.







Glossary

Accessibility: ensuring that all people have access to the necessary opportunities to live a full life and achieve particular tasks and goals. This requires access to resources, services, opportunities, infrastructure as well as addressing barriers to access.

Activity centre: are multifunctional focal points that provide a diverse range of services, facilities and activities. They vary in size and diversity and are designed to be well-serviced by public transport. Refer to the WAPC publication *Activity Centres for Greater Bunbury Policy,* April 2012, for more information.

Areas in the process of region scheme rezoning: areas currently in the process of rezoning to urban and which have been granted WAPC approval to advertise for development in the short-term.

Brownfield area: an area of urban land that has been previously developed but left abandoned, under-utilised or in need of refurbishment and identified for regeneration.

Dwelling: a habitable residential building.

Economic infrastructure: physical facilities such as roads, rail, ports, airports, reservoirs, reticulated water, sewerage, levees, drainage and irrigation facilities, telecommunications, power generation and electricity and gas distribution.

Greenfield area: a large area of land zoned for urban development usually located on the fringe of an urban area.

Hinterland town: for the purpose of this Greater Bunbury Strategy, the hinterland towns are the existing historic townsites not located on the coast, which include Capel, Brunswick, Boyanup, Roelands, Harvey, Dardanup, Burekup, Cookernup, and Yarloop.

Infill development: the increasing of the number of residential dwellings in established urban areas. This usually takes place on land that may be vacant and/or on land where the existing buildings and infrastructure are in need of significant repair or redevelopment. The density of the infill development is determined by the Local Planning Scheme.

Industrial developed land: land currently zoned industrial and is developed.

Industrial expansion area: areas of rural land identified as potential industrial expansion areas for rezoning in the short to medium term subject to statutory rezoning processes.

Investigation areas: rural land to be investigated for potential rezoning in the medium to long term subject to assessment and the statutory rezoning processes.

Liveability: the attractiveness and particular amenities a community has to offer, including well designed public open space, access to services, access to public transport, connection to community, participation in social and economic life, community identity and cultural development.

Local planning scheme: produced by local governments to identify the range of permitted land uses within specified locations. Local planning schemes must be consistent with the relevant region scheme, which in the Greater Bunbury sub-region is the Greater Bunbury Region Scheme.

Local planning strategy: produced by local governments, contains the strategic plan and policy context of a local planning scheme. The strategy sets out the general aims, intentions and desired outcomes for long-term growth and change, having regard to social, economic and environmental factors. An assessment of the capacity of infrastructure such as water, sewerage, electricity and roads is also usually considered in a local planning strategy. Residential densities and commercial centres may also be identified.

Long-term: for the purpose of this Greater Bunbury Strategy refers to the year 2031 and beyond.

Medium-term: for the purpose of this Greater Bunbury Strategy refers to the period 2021 to 2031.

Self-containment: where there is a sufficient level of goods and services, facilities and employment opportunity to meet the daily needs of the local residents in a mixed-use neighbourhood so that the need to travel to other areas for daily requirements in minimised.



Shared space: where pedestrians, cyclists and vehicular traffic have equal rights to access.

Short-term: for the purpose of this Greater Bunbury Strategy, short-term refers to the period 2013 to 2021.

Social infrastructure: the community facilities, services and networks that help individuals, families, groups and communities meet their social needs, maximise their potential for development, and enhance community wellbeing. They include:

- universal facilities and services such as education, training, health, open space, recreation and sport, safety and emergency services, religious, arts and culture, and community meeting places;
- lifecycle targeted facilities and services, such as those for children, young people and older people; and
- targeted facilities and services for groups with special needs, such as families, people with a disability and Indigenous and culturally diverse people.

Structure Plan: Sub-regional structure plan, District structure plan, Local structure plan, Activity centre structure plan, as defined in the WAPC publication *Structure plan preparation guidelines*, (August 2012).

Transit-orientated development: a planning concept that creates of compact, walkable communities centred around high-quality public transit systems and includes a mix of residential, commercial and retail uses within a walkable catchment area.

Urban expansion areas: areas of rural land identified as potential urban expansion areas for rezoning as identified in the Greater Bunbury Strategy and *Greater Bunbury Structure Plan 2013* in the short to medium term (2013 to 2031) subject to statutory rezoning processes.

Urban deferred undeveloped land: land currently zoned 'Urban Deferred' and not yet developed.

Urban developed land: land currently zoned 'Urban' and is developed.

Urban undeveloped land: land currently zoned 'Urban' and not yet developed.

Walkable catchments: the actual area serviced in a 400 metres (five minute) or 800 metres (10 minute) walking distance along the street system from a public transport stop or activity centre.

Annexure SGA10

Bunbury Geographe Sub-Regional Strategy

Department of **Planning, Lands and Heritage**

GOVERNMENT OF WESTERN AUSTRALIA

Western Australian Planning Commission

Bunbury-Geographe

Sub-regional Strategy

January 2022



Acknowledgement of Country

The Bunbury-Geographe sub-region is a contemporary description of a portion of the ancestral lands of the Binjareb, Wilman, Wadandi and Ganeang Noongar people. The Western Australian Planning Commission acknowledges the First Australians as the traditional owners of these lands and pays respect to their Elders past and present.

The *Noongar (Koorah, Nitja, Boordahwan) (Past, Present, Future) Recognition Act 2016* recognises the living cultural, spiritual, familial and social relationship that the Noongar people have with the Noongar lands; and includes the following recognition statement:

Noonakoort moort nitja burranginge noongar boodja

Noonakoort moort kwomba

Djinunge nitja mungarrt — koorah

Noonakoort moort yirra yarkinje kwomba noongar boodja

Koorah — nitja — boordahwan

Noonakoort moort yarkinje noongar boodja

Nyidiung koorah barminje noonakoort moort

Wierrnbirt domberrinje

Noonakoort moort koort boodja

Nitja gnulla moorditj karrl boodja

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Chairman's Foreword

Bunbury-Geographe in Western Australia's south west offers residents and visitors a unique lifestyle based on the sub-region's beautiful natural settings, strong communities and economic opportunities.

This enviable lifestyle, together with the sub-region's strategic location, has driven strong population and economic growth in recent decades.

The *Bunbury-Geographe Sub-regional Strategy* plans for further growth to unlock the sub-region's vast potential. It provides clear directions and actions to guide the future planning and development of land within the sub-region to 2050. The Strategy supports the growth of local communities and plans for a substantial increase in the sub-region's population and economy. With this comes a variety of new challenges, requiring a balance between benefiting existing attributes and maximising strengths while looking ahead to the needs of future residents and visitors to the sub-region.

Specifically, the Strategy identifies the Bunbury Metropolitan Area and promotes it as Western Australia's second city. It also supports investment to diversify Collie's economy and grow the hinterland settlements in the sub-region.

I commend the comprehensive and collaborative approach taken in the preparation of the Strategy. I extend my appreciation to the members of the Steering Group, especially to the Chair of the Bunbury Development Committee and the elected members from the six local governments, who represented their respective communities with passion and vision. I also acknowledge all of the other stakeholders who contributed to or made submissions during the development of the Strategy.

David Caddy
Chairman
Western Australian Planning Commission



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Image courtesy City of Bunbury

EXECUTIVE SUMMARY

Over the past few decades, the Bunbury-Geographe sub-region has gone a long way to fulfil its considerable potential through its strategic location, natural resources and diverse economy.

Around the sub-region's largest centre of Bunbury, the development of new urban areas such as Dalyellup, Glen Iris and Treendale has seen the population and economy grow to a metropolitan level. The Strategy recognises this and identifies the Bunbury Metropolitan Area as the contiguous built-up area that extends across the City of Bunbury and into neighbouring localities in the Shires of Capel, Dardanup and Harvey.

The Bunbury Metropolitan Area is the driving force for development within the sub-region, and serves as a commercial, administrative and employment hub for the wider South West region. The role of the Bunbury Metropolitan Area as Western Australia's second city will continue to increase in importance as the population grows towards 200,000 and beyond.

The sub-regional centre of Collie is experiencing change of a different nature, and is transitioning to a more sustainable economy with a greater range of industries. The Strategy supports investment and initiatives to help Collie with this economic transition.

These major centres are complemented by a diverse and productive hinterland, with a network of inland settlements offering diverse lifestyle options and close linkages to the sub-region's broad economic base. The Strategy supports the growth of these hinterland towns to reinforce their ongoing role in the settlement network.

New residents are attracted to the area by its economic opportunities, beautiful natural setting and strong communities. Together these characteristics comprise the enviable Bunbury-Geographe lifestyle.

The sub-region has been undergoing considerable change, and it has further capacity to grow and reach its potential as a population centre and economic area of strategic importance to Western Australia. The Strategy plans for a step change in the magnitude of Bunbury-Geographe's population and economy, in a manner that leverages the sub-region's strengths and maintains its uniqueness.

The Strategy has a time horizon of 2050 and can be used by any organisation or person seeking strategic guidance at a sub-regional scale on:

- land use planning and development in the Bunbury-Geographe sub-region
- the coordinated provision of infrastructure and/or services to accompany land development.

The Strategy is comprised of two main parts as follows:

Part A: Strategy

The key strategic content. Part A articulates a vision for the sub-region and identifies guiding principles and the strategic directions required to achieve that vision.

Part B: Profile

The supporting information. Part B profiles the sub-region's people and culture, population, urban settlement, utilities and services, environment, economy, and transport.



INTRODUCTION

Status

The *Bunbury-Geographe Sub-regional Strategy* (the Strategy) forms parts of the Western Australian planning framework under *State Planning Policy 1: State Planning Framework*.

The Strategy is a third-tier strategic planning document, as shown in Figure 1. It provides a clear line of sight between:

- the higher order *State Planning Strategy 2050* and *South West Regional Planning and Infrastructure Framework* of the Western Australian Planning Commission, and
- the local planning strategies of the respective local governments.

The Strategy therefore connects strategic planning at all tiers.

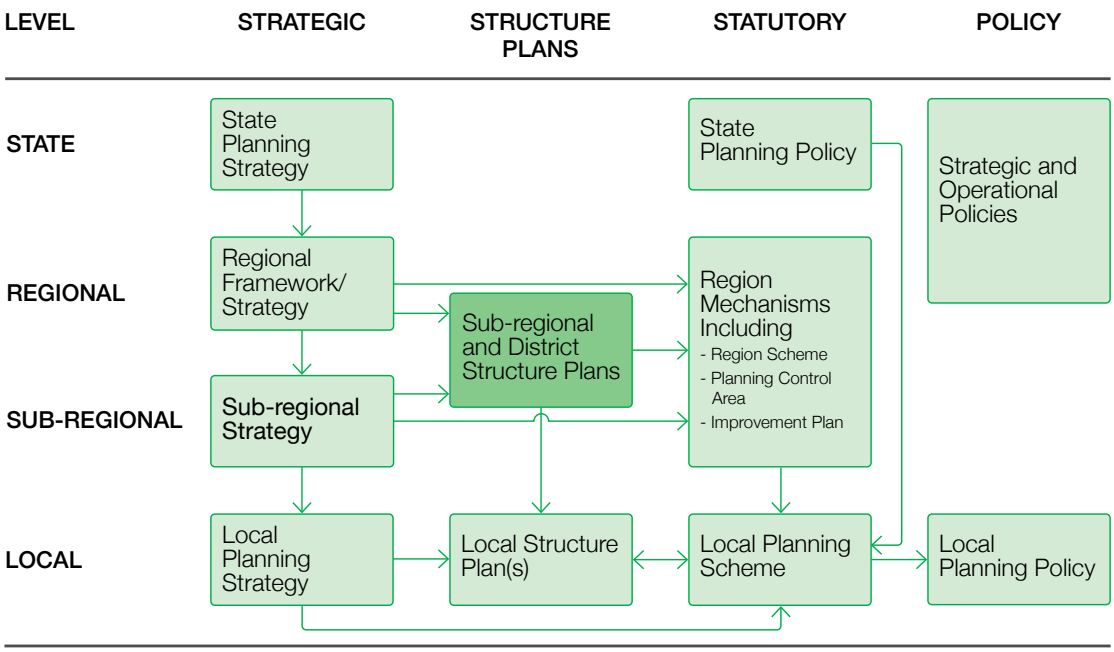
Strategy area

The Strategy applies to the following local government areas:

- City of Bunbury
- Shire of Dardanup
- Shire of Donnybrook-Balingup
- Shire of Capel
- Shire of Collie
- Shire of Harvey.

The name 'Bunbury-Wellington' has been used in the past for this sub-region. The Strategy uses the name Bunbury-Geographe to better reflect well-known geographic features of the area, such as Geographe Bay and the Geographe Wine Region.

Figure 1 – Western Australian Planning Framework



Purpose

The Western Australian Planning Commission's *State Planning Policy 1: State Planning Framework* establishes that sub-regional strategies guide change and provide a basis for cooperative action to be taken by the State and local governments on land use and development.

The primary purpose of this Strategy is to plan for and manage growth in the Bunbury-Geographe sub-region to the year 2050. It does this by:

- establishing a **vision to 2050** to guide land use planning, expressing an agreed aspiration for the future of the sub-region, in the context of the State Planning Framework
- identifying **strategic directions** and **actions** required to implement the vision
- reaffirming the **status of Bunbury** as the State's second city
- defining the sub-region's **settlement hierarchy**
- identifying future **land requirements** for residential and employment purposes
- providing a strategic context for local governments in preparing, reviewing and implementing **local planning frameworks**
- **profiling** the sub-region's urban settlements, transport networks, economy, environment and utilities/services.

Methodology

The Strategy was prepared by the Department of Planning, Lands and Heritage on behalf of the WAPC.

A Steering Group and five themed Working Groups were established to guide the preparation of the Strategy. The functions and membership of these groups can be seen in Appendix 1.

Development of the Strategy included:

- five Steering Group meetings, including a visioning workshop with an independent facilitator
- 14 Working Group meetings
- a strategic workshop with an independent facilitator attended by 85 Steering and Working Group members
- a bus tour of the sub-region for WAPC members.

The draft Strategy was advertised from November 2020 to February 2021. A total of 38 submissions were received.



Strategic workshop held at the Bunbury Dolphin Discovery Centre

Key planning issues

A profile of the sub-region is provided in Part B of the Strategy. The key land use planning issues for the sub-region identified in the profile are as follows:

Urban settlement

- The Bunbury Metropolitan Area is located across the City of Bunbury, Shire of Harvey, Shire of Dardanup and Shire of Capel. This gives rise to the need for coordinated strategic planning for the Bunbury Metropolitan Area across local government boundaries.
- The primacy of Perth over the rest of the State means that it attracts the majority of net interstate and overseas migrants to Western Australia. This poses a challenge for the population of Bunbury-Geographe to expand at the rate of growth that is desired.
- The feasibility of urban land development has been inhibited by low demand and high cost, relative to land values, of providing utility services and fill, especially in hinterland towns.
- The need to provide for diverse and affordable housing, while delivering a high quality of built form.
- The importance of conserving and enhancing the unique character, identity and sense of place of each settlement in the sub-region.

Economy

- Growth of the sub-region will require additional local employment through job creation.
- A number of factors, including fluctuating demand, technological advances and the reduction of carbon emissions are challenging some of Bunbury-Geographe's traditional industries including coal mining, energy generation, agriculture, retail and construction.
- Ensuring that land use planning supports implementation of the *Bunbury Geographe Regional Growth Plan* and the *Collie-Bunbury Economic Development Action Plan*.
- The need to support government initiatives to help Collie manage the transition away from coal-powered electricity generation by encouraging the diversification of the employment base and the economy.



Image courtesy Shire of Dardanup

Environment

- Balancing growth with the protection of areas with high biodiversity significance and other environmental values.
- The need to sustainably manage natural resources, including minimising fill on development sites and encouraging lightweight construction and alternative road construction materials and methods.
- The need to respond to the potential impacts of climate change, including a drying climate, reducing groundwater and surface water availability, and sea-level rise.
- Natural hazards (such as bushfire, coastal inundation/erosion and flooding) pose a risk to existing and future development.

Transport

- The need to integrate land use planning with long-term regional transport requirements.
- As the population and traffic congestion levels increase over time, particularly within the Bunbury Metropolitan Area, there is a need to provide a more effective and efficient public transport system that provides connectivity and builds linkages across the Bunbury Metropolitan Area, the wider sub-region and further afield.
- The importance of capturing opportunities provided by improved linkages with adjacent regions resulting from the Bunbury Outer Ring Road and improvements to Bussell Highway between Capel and Busselton.
- The opportunity for a fast passenger rail service connecting the Bunbury Metropolitan Area with Perth and Busselton, including an appropriate location for a railway station in the Bunbury Metropolitan Area.
- The need to plan for the efficient movement of freight from extraction sites to downstream processing and export facilities at Kemerton Strategic Industrial Area and the Port of Bunbury.

Utilities and services

- The sub-region's geographically dispersed settlement pattern, with a relatively small population spread across a number of settlements and sensitive environment, poses challenges for the efficient provision of infrastructure, utilities and services.
- Technological improvements offer the opportunity for flexible, innovative and alternative servicing solutions arrangements.
- The need to investigate and plan for alternative water sources and servicing strategies to meet long-term potable and non-potable water demands.



Image courtesy Shire of Dardanup



PART A STRATEGY

1. Vision

The vision for the Bunbury-Geographe sub-region is:

By 2050, Bunbury-Geographe will be internationally recognised as the home of Western Australia's second city, connected by an enviable lifestyle, diverse economy, unique natural environment and sustainable values.

The vision gives rise to the guiding principles, and serves as a target or goal when devising strategic directions and future actions.

2. Principles

The guiding principles for the Strategy are shown in Figure 2 – Strategy Table.

The principles guide the assessment of key issues and drive the formulation of the strategic directions listed in the following section. The Strategy Table shows the alignment between the principles and strategic directions.

3. Strategic directions

To support implementation of the State Planning Framework in the Bunbury-Geographe sub-region, the WAPC sets the strategic directions outlined in Figure 2 – Strategy Table to guide its planning activities for the sub-region.

The strategic directions state what is to be achieved or desired, and contribute to the achievement of the vision.

Where possible, the strategic directions are spatially or conceptually represented on the strategy map. Bolded text denotes where a strategic direction is directly referenced on the strategy map.

The strategic directions are organised into themes. The alignment between the principles and strategic directions can be seen in Figure 2 – Strategy Table.

Figure 2 – Strategy Table

THEME	PRINCIPLES	STRATEGIC DIRECTIONS
GROWTH	**Go beyond a business as usual approach to help the sub-region reach its full potential.** *A conscious step away from business as usual, seeking a deliberate step change that builds on the past but approaches the future differently, to provide a prosperous and sustainable future for Bunbury-Geographe*	1. Promote the **Bunbury Metropolitan Area as Western Australia's second city**, offering a range of employment and services as a genuine urban alternative to metropolitan Perth. 2. Provide for the growth of the sub-region's population to 200,000 by identifying sufficient residential and employment land to cater for this target population. 3. Recognise the broader aspiration for a population of 300,000 in the sub-region and respond to accelerated rates of growth by identifying additional residential and employment land, through regular monitoring and updating the Strategy as required.
	Establish an agreed and achievable pattern of growth across the sub-region. *Focusing growth in the larger settlements to maximise economic benefit and leverage existing infrastructure will help to ensure a sustainable future for the network of settlements that characterise the Bunbury-Geographe sub-region. Settlements will continue to be attractive places to live, with high amenity and access to services.*	4. Adopt the **settlement hierarchy** for the Bunbury-Geographe sub-region in Section 5. 5. **Promote the growth of the Bunbury Metropolitan Area as a Regional City** and the focus of major population and employment growth in the sub-region. 6. **Promote the growth of Collie** as a Sub-regional Centre by facilitating planning proposals that will help to diversify the employment base and provide for a smooth economic transition in the future. 7. **Support the growth of Major Towns and Towns** to reinforce their ongoing roles in the settlement network. 8. **Foster sustainable change in Villages** to support resilient communities. 9. Support proposals in Yarloop that assist in the redevelopment of the settlement following the 2016 Waroona-Yarloop Bushfire.
URBAN SETTLEMENT	**Promote a diverse urban form to cater for a range of lifestyle options and affordable housing choices.** *Lifestyle options and housing choice are at the heart of the Bunbury-Geographe lifestyle. Options include houses and units at varying densities and in a range of settings: inner urban, coastal suburban, hinterland towns and rural living. Promoting the offerings of a diverse urban form will maintain the Bunbury-Geographe lifestyle and retain the affordability benefits of living in regional Western Australia.*	10. Promote a consolidated urban form for the Bunbury Metropolitan Area through urban infill and increased residential densities around activity centres and other areas identified in a local planning strategy, while respecting heritage values and the distinctive character of each locality. 11. Support greenfield development in locations that have already been zoned or committed for residential purposes, and that are contiguous to existing urban areas with ready access to existing infrastructure and services. 12. Designate the **East Treendale Urban Expansion Area**. The extent of the East Treendale Urban Expansion Area is shown in Figure 7. 13. Designate the **Clifton Road Rural Living Precinct**. The extent of the Clifton Road Rural Living Precinct is shown in Figure 7. 14. Designate the **Treendale Road Rural Living Precinct**. The extent of the Treendale Road Rural Living Precinct is shown in Figure 7. 15. Provide for the designation of new rural living areas in locations contiguous with the following settlements: Collie, Donnybrook, Harvey, Balingup, Brunswick Junction, Dardanup, Allanson, Burekup, Cookernup, Kirup, Mullalyup, Roelands, Wokalup, Yarloop. Proposals for new rural living areas are to address the planning requirements for rural living precincts contained in *State Planning Policy 2.5: Rural Planning*. New rural living areas are to be designated in a local planning strategy and/or a local planning scheme. 16. Require local governments to use local planning strategies to review stocks of residential and employment land to identify and respond to opportunities and constraints.
	Promote alternative and innovative solutions. *Exploring alternatives, applying new technologies and embracing innovative solutions will help to address local challenges and opportunities.*	17. Support and encourage fit for purpose technology to deliver innovative waste management solutions which support the objectives and targets of the *Waste Authority's Waste Avoidance and Resource Recovery Strategy 2030*. 18. Support proponents of urban land developments to investigate alternative models of utility service delivery that provide a standard of service appropriate for the intended use, and that are capable of regulation by the Economic Regulatory Authority. 19. Encourage new developments, including those in infill areas, to be more waterwise and create climate resilient public open space, sporting grounds and recreational venues.

THEME	PRINCIPLES	STRATEGIC DIRECTIONS
ECONOMY	**Strengthen and diversify the economy.** *Bunbury-Geographe's economic strengths and competitive advantages make the sub-region poised for prosperity. Expanding the economy and pursuing opportunities based on emerging and existing strengths will make Bunbury-Geographe more attractive to potential investors and will drive diversity and adaptability.*	20. Adopt the activity centre hierarchy for the Greater Bunbury Region Scheme area in Section 6. 21. Require local governments to undertake activity centre planning in accordance with *State Planning Policy 4.2: Activity Centres*. 22. Ensure an adequate supply of industrial and commercial land across the sub-region to facilitate local employment. 23. Protect strategic basic raw materials in the sub-region from the encroachment of incompatible land uses that would restrict future extraction. 24. Undertake a study of the supply and demand of basic raw materials within the sub-region and the opportunities for alternative building construction techniques to reduce demand from the building and construction industries. 25. Facilitate the expansion and diversification of the tourism industry, and promote the flexibility of rural zones to accommodate rural-based tourism uses. 26. Support initiatives and investment in Kemerton Strategic Industrial Area and Shotts Strategic Industrial Area to make land project ready, and facilitate proposals in accordance with relevant planning instruments. 27. Retain identified light and general industrial areas for industrial use and protect from the encroachment of sensitive land uses. 28. Protect priority agricultural land from incompatible land uses. 29. Support expansion of the Bunbury Port and the establishment of an intermodal freight hub facility in the Waterloo industrial area, or another suitable location that has direct access to inter-regional road and rail infrastructure.
ENVIRONMENT	**Consider and respond to the implications of climate change.** *Appropriately identifying and managing climate impacts and risks will enhance the climate resilience of Bunbury-Geographe. Promoting and supporting emission reduction outcomes for the sub-region will reduce its contribution to global climate change.*	30. Recognise potential impacts and opportunities arising from climate change and initiatives to reduce greenhouse gas emissions in planning instruments.
	Protect and enhance environmental values in the context of climate change. *Bunbury-Geographe's natural setting is a key component of the sub-region's liveability, attracting visitors as well as supporting community wellbeing. Protecting and enhancing the many valued natural assets will ensure best outcomes for the sub-region's environment, economy and community.*	31. Require planning instruments to identify and **protect, manage and enhance environmental assets** such as forests, rivers, estuaries, coastlines and areas of remnant vegetation. 32. Focus the growth of settlements in locations where impacts on natural resources and the environment are minimised. 33. Preserve and enhance ecological linkages, including a presumption against further fragmentation of these linkages, in planning instruments. 34. Require local governments to use local planning strategies to identify and protect significant visual landscapes.
	Protect people and property from natural hazards. *Appropriately managing the risk posed to settlements by natural hazards will protect life and livelihood.*	35. Adopt a presumption against planning proposals within areas identified to be affected by coastal hazards and flooding. 36. Support intensification of land use only where bushfire risk can be understood to be low and/or capable of being appropriately mitigated without adversely impacting biodiversity conservation.

THEME	PRINCIPLES	STRATEGIC DIRECTIONS
TRANSPORT	**Improve transport connections within the sub-region and to adjoining areas.** *Bunbury-Geographe is strategically positioned as the gateway to the South West. Enhancing transport connectivity will reinforce existing linkages within the sub-region and redefine cross-regional relationships between Bunbury-Geographe and surrounding areas.*	37. Support initiatives to connect and link the Bunbury Metropolitan Area to the hinterland settlements to create an **integrated network**, including public transport and regional bike network connection. 38. Retain the **Australind railway reserve** and collaborate with State Government agencies on the potential relocation of the terminus to central Bunbury. 39. Collaborate with State Government agencies on planning for a potential **fast passenger rail** connecting Perth and the South West region, including securing a corridor in appropriate planning instruments. 40. Support increasing the capacity of the existing **freight rail network** and future strategic freight rail alignments. 41. Promote the sub-region's **tourist routes** in planning instruments. 42. Support improvements to the **road and rail access to Bunbury Port** and respond to any changes to the local and sub-regional transport network resulting from the expansion of the Port.
UTILITIES AND SERVICES	**Ensure sustainable regional outcomes by coordinating the provision of infrastructure to support growth.** *The fair and equitable provision of infrastructure is key to communities remaining connected, sustainable and vibrant. The planning, upgrading and/or provision of new infrastructure across the sub-region to both stimulate growth and meet demand will help to ensure sustainable outcomes for Bunbury-Geographe.*	43. Direct future urban growth to locations that are well serviced by existing infrastructure networks. 44. Support the provision of sufficient utility, transport, health, education, and community infrastructure/services to cater for a growing population and economy across the sub-region. 45. Support the delivery of infrastructure projects and regulatory process improvements identified by the Industrial Lands Authority and Infrastructure WA. 46. Support measures to improve water efficiency and re-use of grey water where appropriate. 47. Collaborate with infrastructure providers to audit current capacity of electricity, water and wastewater infrastructure to help quantify existing growth capacity and thresholds for upgrades, and to develop servicing strategies to meet long-term potable and non-potable water demands.
LIFESTYLE	**Retain, protect and leverage the sub-regional character and the Bunbury-Geographe lifestyle.** *The character and lifestyle of Bunbury-Geographe are defining factors that set the sub-region apart from other areas, and are critical in attracting and retaining residents. Growth will be carefully managed to capitalise upon and ensure key features of character, diversity of housing choice and lifestyle are not lost.*	48. Encourage local governments to protect local character by preparing and implementing design standards that require new development in existing urban areas to maintain and improve the streetscape and amenity of the locality. This can include the use of local planning schemes to vary the requirements of the R-Codes. 49. Collaborate with local governments to undertake/review local heritage surveys, and designate heritage lists and/or areas. 50. Engage with Gnaarla Karla Boodja Regional Corporation (proposed), South West Boojarah Regional Corporation (proposed) and Aboriginal heritage knowledge holders as stakeholders in the land use planning process.



4. Strategy map

The strategy map is a spatial representation of the key strategic content of this Strategy.

The strategy map does not provide a high-level designation of land uses, as this is a function of the Greater Bunbury Region Scheme.

Rather, the strategy map provides a conceptual representation of the principles and strategic directions that have a spatial dimension. These are denoted by bolded text in Section 3 – Strategic directions.

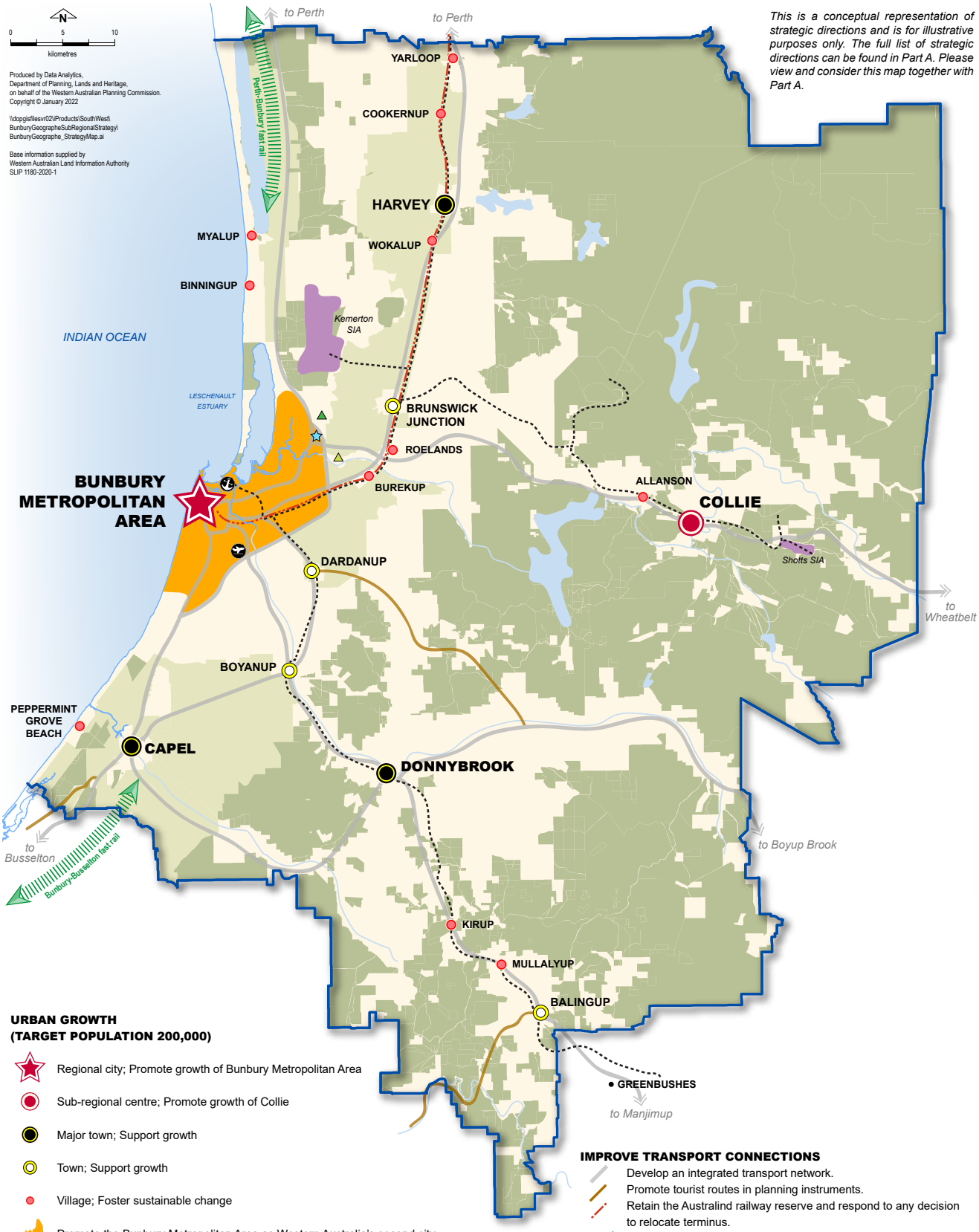
It should be noted that not all principles and strategic directions have a spatial dimension and can be visually depicted on the strategy map. It is recommended that the strategy map and the strategic directions in Part A are viewed and considered together.

The strategy map is shown on the following page.



Image courtesy City of Bunbury

Strategy map



This is a conceptual representation of strategic directions and is for illustrative purposes only. The full list of strategic directions can be found in Part A. Please view and consider this map together with Part A.

URBAN GROWTH (TARGET POPULATION 200,000)

- Regional city; Promote growth of Bunbury Metropolitan Area
- Sub-regional centre; Promote growth of Collie
- Major town; Support growth
- Town; Support growth
- Village; Foster sustainable change
- Promote the Bunbury Metropolitan Area as Western Australia's second city.
- Designate East Treendale Urban Expansion Area
- Designate Clifton Road Rural Living Precinct
- Designate Treendale Road Rural Living Precinct

PROTECT ENVIRONMENTAL ASSETS

- Waterway
- Dam / Lake / Estuary
- Coastline
- National Park / Reserve / State Forest

IMPROVE TRANSPORT CONNECTIONS

- Develop an integrated transport network.
- Promote tourist routes in planning instruments.
- Retain the Australind railway reserve and respond to any decision to relocate terminus.
- Collaborate on a fast passenger rail, connecting Perth and the South West Region (concept only - alignment to be determined).
- Support increasing the capacity of the existing freight rail network and future strategic freight rail alignments.

STRENGTHEN AND DIVERSIFY THE ECONOMY

- Support investment in Strategic Industrial Areas and facilitate proposals.
- Protect priority agricultural land.
- Support expansion of Bunbury Port and improvements to rail and road access.

5. Settlement hierarchy

The Strategy's settlement hierarchy (Figure 3) varies from that set out in the *South West Regional Planning and Infrastructure Framework*. Several of the hierarchy categories have been changed to more appropriately reflect the current role of the settlements within each category, and some settlements have changed categories or been added to the hierarchy.

Figure 3 – Settlement hierarchy

HIERARCHY CATEGORY	SETTLEMENTS	CATEGORY DESCRIPTION
REGIONAL CITY	Bunbury Metropolitan Area	From a regional perspective, regional cities are typically dominant centres for population, economic activity and employment and are considered to offer the most extensive and diverse range of high-order services and functions. They play a significant role in developing much of a region's industry and employment and contain substantial hard infrastructure of regional significance. Regional cities often service a catchment that includes the majority of the regional population as well as industrial, retail, commerce, administration, government and social services. Importantly, they contain substantial regional health, education and recreation infrastructure. Typically, they contain a wide range of comparative retail, regional and branch offices of several government departments, and often provide a regional cultural and entertainment hub.
SUB-REGIONAL CENTRE	Collie	Sub-regional centres support the population and economic activities within their surrounding hinterlands through the provision of goods and services. The catchment areas of sub-regional centres usually extend beyond the immediate centre to include surrounding centres and districts and as such, their services are utilised by a broader population. Retail services offered in sub-regional centres largely focus on the day-to-day needs of their service population, however some comparative retail may also occur, particularly in larger centres. Other commercial and light industrial activities, which generally exist to service the local economies, are important functions of sub-regional centres. Sub-regional centres often provide local government administrative functions and a range of social infrastructure and services, including local recreation, health services and secondary education.
MAJOR TOWNS	Capel Donnybrook Harvey	Settlements within the major towns, towns and villages tiers offer a level of service that generally deals with the daily needs of their service population. Three separate tiers allow for distinction to be made where particular settlements service a larger population catchment and/or offer a greater number of services relative to others. The assignment of settlements to the respective tiers is considered within the context of that particular region.
TOWNS	Balingup Boyanup Brunswick Junction Burekup Dardanup	
VILLAGES	Allanson Binningup Cookernup Kirup Mullalyup Myalup Peppermint Grove Beach Roelands Wokalup Yarloop	

6. Activity centre hierarchy

Activity centres are multi-functional community focal points that include land uses such as commercial, retail, food and hospitality, entertainment, higher education, medical services and higher-density residential.

The WAPC's *State Planning Policy 4.2: Activity Centres* applies to activity centres within the Greater Bunbury Region Scheme area.

This Strategy adopts the following hierarchy of activity centres for the Greater Bunbury Region Scheme area:

Figure 4 – Activity centre hierarchy

Hierarchy Category	Activity Centre
Strategic Centre	Bunbury CBD
Specialised Centre	Bunbury Health and Education Precinct (College Grove)
Secondary Centre	Wanju (Waterloo)
District Centres	Bunbury Forum (East Bunbury) Dalyellup Eaton Fair (Eaton) Parks Centre (Carey Park) Treendale
Neighbourhood and Local Centres	Identified in the relevant Local Planning Strategy

7. Population

A key aspect of the Strategy is the size of the future population that is being planned for.

The *Bunbury-Geographe Regional Land Supply Assessment* provides a detailed analysis on the population profile for the sub-region.

The below sections outline a range of population scenarios and growth trajectories, and the target population adapted by the Strategy

7.1 Population scenarios

The Strategy considers various population scenarios to represent a range of growth trajectories into the future: baseline, growth and boom.

- Baseline: current population and employment growth trends continue.
- Growth: a steady rate of above trend population and employment growth (eg 10-20 per cent higher than historic levels).
- Boom: a steady above trend rate shocked with government intervention and/or major investment cycles.

The population scenarios include a range of *population forecasts* from WA Tomorrow (Scenarios 1 to 3), and two aspirational populations developed by the Steering Group (Scenarios 4 and 5). These are outlined in more detail in the following sections and are presented in Figure 5.

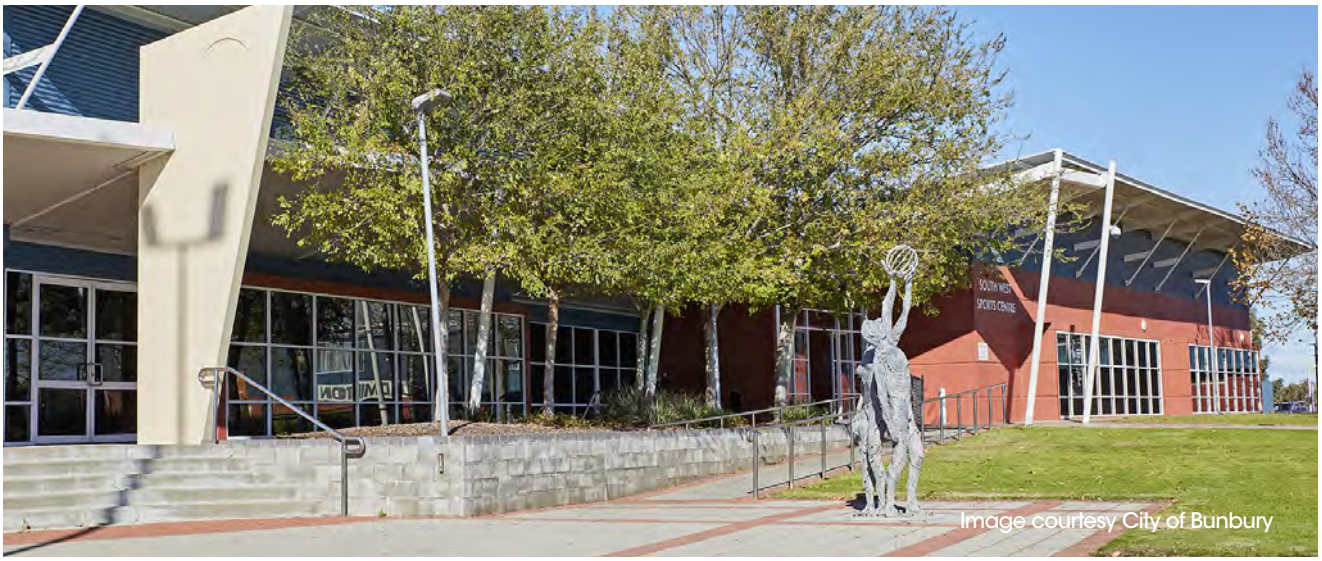


Image courtesy City of Bunbury

WA Tomorrow forecasts (Scenarios 1, 2 and 3)

The first three scenarios are derived from *Western Australia Tomorrow Population Report No. 11: medium term population forecasts for WA 2016 to 2031*. WA Tomorrow is a series of population forecasts based on historical trends. The forecasts represent the best estimate of future population size if trends in fertility, mortality and migration continue.

The WA Tomorrow forecast comprises five bands, each of which represents one-fifth of the 10,000 possible variations of the model. This Strategy uses the low, median and high bands for Bunbury-Geographe as population scenarios, as follows:

- Scenario 1 is based on Band A (low band)
- Scenario 2 is based on Band C (median band)
- Scenario 3 is based on Band E (high band)

Band C is the midpoint of the forecasts, with a 50 per cent probability that the actual number will be lower and a 50 per cent probability that it will be higher. Bands A and E have an equal probability level (10 per cent) that the actual number will be lower and higher respectively, and thus are equally as likely to occur as the other.

The WA Tomorrow forecasts are to 2031 only. They do not take into account the effects of unforeseen events that may change trends, such as significant shifts in government policy. As such, Scenarios 1 to 3 can be considered as "business as usual" scenarios.

Aspirational population scenarios (Scenarios 4 and 5)

Aspirational population scenarios for Bunbury-Geographe were developed by the Steering Group in a consultation process that engaged the South West Development Commission, the Bunbury Development Committee and the six relevant local governments.

The aspirational populations are hypothetical scenarios for an undefined point in the future, likely to be towards the end of the 2050 time horizon of the Strategy. They are termed 'aspirational' because they are based on the aspiration for the sub-region to reach its full potential, which will require a significant break from the current trajectory.

Scenario 4: The Strategy's 'A' aspiration population scenario is for 200,000 people living in the sub-region. This scenario provides for a growth trajectory significantly above the WA Tomorrow median forecast, and balances population expansion with maintaining the Bunbury-Geographe lifestyle.

Scenario 5: The Strategy's 'B' aspiration population scenario is for 300,000 people living in the sub-region. This scenario is generally based on the *Bunbury Geographe Regional Growth Plan's* call to decentralise over 200,000 people from Perth-Peel to generate a population of 300,000.



Image courtesy City of Bunbury

7.2 Growth trajectories

The various population scenarios outlined above represent a range of demographic/economic growth trajectories, as follows:

Figure 5 – Growth Trajectories

POPULATION SCENARIOS						GROWTH TRAJECTORY
WA Tomorrow forecasts		**2016**	**2021**	**2026**	**2031**	
1	WA Tomorrow Band A (low)	106,000	103,000	108,000	115,000	**Baseline**
2	WA Tomorrow Band C (median)	106,000	111,000	119,000	127,000	
3	WA Tomorrow Band E (high)	106,000	120,000	129,000	139,000	
Aspirational						
4	Aspirational population scenario A	200,000				**Growth**
5	Aspirational population scenario B	300,000				**Boom**

The WA Tomorrow forecasts represent a baseline (or business as usual) trajectory, based on continued historic growth rates. For Bunbury-Geographe, a baseline trajectory may mean that it does not reach its full potential as a major regional city, comparable to cities such as Geelong, Wollongong and Townsville.

The aspirational population of 200,000 represents a growth trajectory, where a steady rate of above-trend expansion is achieved over a sustained period into the future.

The aspirational population of 300,000 represents a boom trajectory, where growth rates are shocked by government intervention and/or major investment cycles.

7.3 Target population

The Strategy does not predict an average annual growth rate or estimate a population size at a specific time. Rather, it recognises the aspiration for Bunbury-Geographe to reach its full potential as a genuine urban alternative to Perth and Peel, which would likely see the sub-region's population grow towards 200,000 over the next 20-30 years.

The Strategy therefore adopts 200,000 as a target population. In this context, the 'target population' is a simple reference point to inform land requirements and help guide the delivery of infrastructure and services.

The Strategy also recognises that settlements are complex systems: each part of the system has an effect on the whole, while the system as a whole affects each part. This produces a feedback loop where population growth and economic growth interact and can drive rapid change.

Implementation of the Strategy will include regular monitoring of population growth and economic activity to determine whether the target population and associated strategic directions require updating. In this way the Strategy can respond to accelerated growth rates and will have robustness to deal with uncertain events over the 2050 time horizon that may impact on growth trajectories.

8. Land requirements

The Strategy was prepared concurrently with, and is directly informed by, the *Bunbury-Geographe Regional Land Supply Assessment*. In terms of understanding the land requirements, it is recommended that the two documents are considered together.

The land requirements to meet the residential and employment needs of the target population are summarised in the following section.



8.1 Residential land

In considering the adequacy of residential land supply, the *Bunbury-Geographe Regional Land Supply Assessment* quantifies a supply of approximately 41,340 additional dwellings to be achieved through greenfield and major infill. Based on an average household size of 2.6 persons, this could support an additional 107,480 residents in the sub-region. Based on the existing population of approximately 106,000 people, this is sufficient to accommodate the Strategy's 200,000 target population.

Of the supply of 41,340 additional dwellings in the sub-region, approximately 25 per cent is located in the hinterland settlements. The feasibility of land development in these locations is often inhibited by the high cost, relative to land values, of providing utility services and fill.

As some of the additional dwelling potential in the hinterland settlements may go unrealised over the medium term due to market conditions, the Strategy identifies the East Treendale urban expansion area to round off the urban form of the Bunbury Metropolitan Area and to provide additional capacity for the target population to be achieved.

In addition, the Strategy promotes a consolidated urban form for the Bunbury Metropolitan Area through urban infill and higher densities around activity centres and other areas identified in a local planning strategy. There is already significant potential for 'background infill', which refers to the additional dwelling potential from a residential lot that has been subdivided to a size consistent with the urban form, and that can be further subdivided based on the general site requirements for the applicable density code (such as a 1,000m^2 lot with a density code of R30).

The *Bunbury-Geographe Regional Land Supply Assessment* estimates that there is potential for between approximately 6,000 to 20,000 additional dwellings through background infill in the Bunbury Metropolitan Area, based on existing residential densities.

Based on the above, a sufficient volume of land has been in existing planning instruments to cater for the target population of 200,000. Consumption rates of this land will be monitored on a regular basis to identify trends and respond as required.

8.2 Employment land

Employment land is broadly defined as land that can be used for employment generating activities, including land zoned for industrial and commercial purposes.

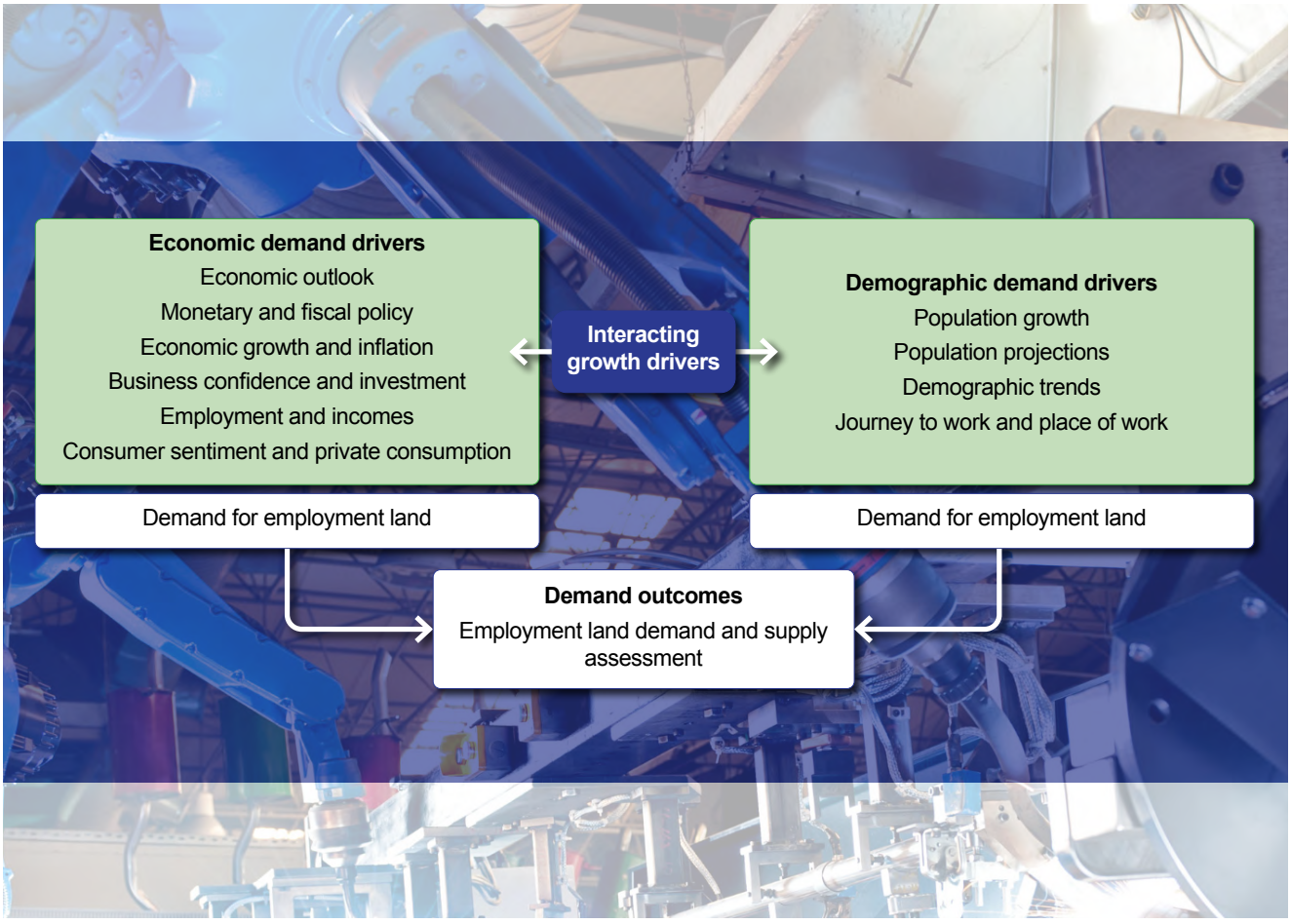
Planning for employment land is a complex process that takes place within a highly dynamic market. Economic conditions and population growth interact to drive demand for industrial and commercial land. Figure 6 shows the relationships between economic and demographic factors that influence demand for employment land.

Due to the cyclical nature of economic growth and the complexity of the interacting growth drivers, it is challenging to precisely quantify the required supply of employment land.

The *Bunbury-Geographe Regional Land Supply Assessment* identifies that there are large stocks of land available for industrial expansion in the sub-region. The Strategy supports initiatives and investments in the Kemerton and Shotts Strategic Industrial Areas to make land project ready, in order to facilitate industrial development and job creation in the sub-region. Examples include obtaining environmental approvals and providing infrastructure to deconstrain land. Investment in the Coolangatta Industrial Estate, identified as a future Strategic Industrial Area in the Shire of Collie's Local Planning Strategy, is equally supported.

The Strategy seeks to ensure an adequate supply of industrial and commercial land across the sub-region to facilitate local employment. This may involve local governments reviewing stocks of land zoned for general/light industrial and commercial purposes, to identify and respond to opportunities and constraints.

Figure 6 – Employment land drivers



9. Bunbury Metropolitan Area

The Strategy identifies the 'Bunbury Metropolitan Area'. This is broadly defined as the contiguous built-up area that extends across the City of Bunbury and into neighbouring localities in the Shires of Capel, Dardanup and Harvey.

The identification of the Bunbury Metropolitan Area is for strategic planning purposes – it is not a planning region prescribed by the *Planning and Development Act 2005* and it does not have clear, legally defined boundaries. Its extent can generally be understood as being from Australind in the north to Dalyellup and Gelorup in the south, with the alignments of the Forrest Highway and the Bunbury Outer Ring Road forming the outer boundary.

From a settlement perspective, the Bunbury Metropolitan Area is treated as a single settlement and is categorised as a Regional City in the settlement hierarchy.

Identifying the Bunbury Metropolitan Area highlights its role as a driving force for development within the Bunbury-Geographe sub-region, and as a commercial, administrative and employment hub for the wider South West region – Western Australia's most populous region outside Perth. The role of the Bunbury Metropolitan Area in the State's settlement hierarchy will continue to increase in importance as the population grows towards 200,000. The Strategy therefore promotes Bunbury Metropolitan Area as the State's second city.

In order to round-off its urban form, the Strategy designates East Treendale as an urban expansion area. The Strategy does not provide for the residential expansion of the Bunbury Metropolitan Area beyond the alignment of the Bunbury Outer Ring Road.

Consistent with this, the Strategy promotes a more consolidated urban form for the Bunbury Metropolitan Area through urban infill and increased residential densities around activity centres.

Local governments are to utilise their respective local planning frameworks to identify specific locations for increased residential densities around activity centres, and other areas considered appropriate for an increase in residential density.



Image courtesy City of Bunbury

10. East Treendale Urban Expansion Area

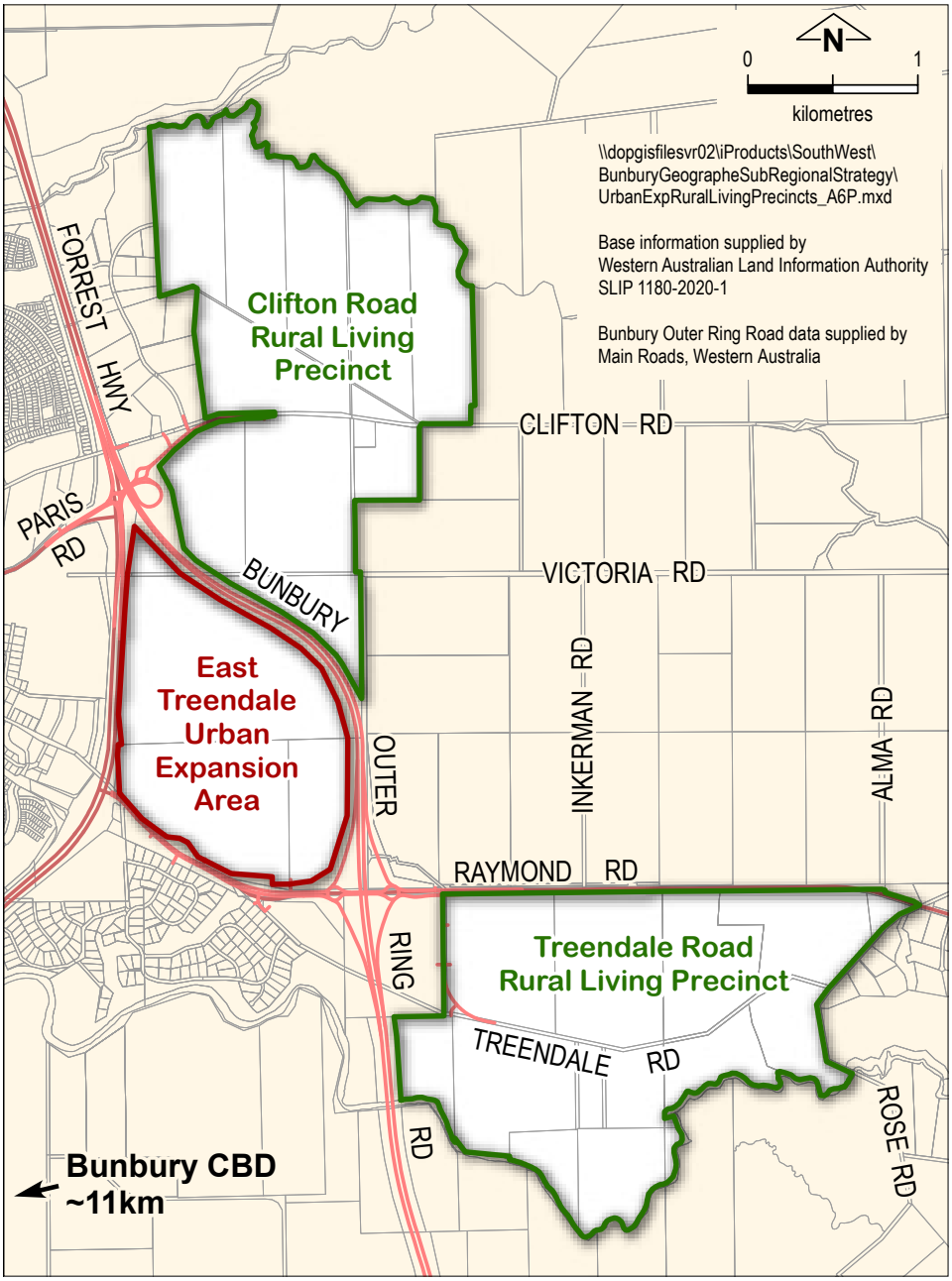
The Strategy designates the East Treendale Urban Expansion Area. It is spatially defined as the land bound by Forrest Highway, Clifton Road and the Bunbury Outer Ring Road. (see Figure 7)

East Treendale is identified as an urban expansion area as it represents the logical extension of the urban front and "rounds off" the footprint of the Bunbury Metropolitan Area west of the Bunbury Outer Ring Road.

The following activities will be required prior to the potential subdivision and development of the land for urban purposes:

- amendment of the Greater Bunbury Region Scheme to rezone the land to Urban Deferred, including consideration of regional reserves
- transfer of the land from the Urban Deferred zone to the Urban zone in the Greater Bunbury Region Scheme
- amendment of the Shire of Harvey local planning scheme
- preparation of a structure plan and approval by the WAPC.

Figure 7 – East Treendale Urban Expansion Area and Rural Living Precincts



11. Rural living areas

'Rural living' is an umbrella term used to describe a range of zones that provide for low density residential uses in an estate or precinct, generally characterised by a grouping of lots in the order of one to 40 hectares. The main Rural Living zones are:

- Rural Residential
  (for lot sizes in the range of 1 ha to 4 ha).
- Rural Smallholdings
  (for lot sizes in the range of 4 ha to 40 ha).

Strategic Directions 13 and 14 designate the Clifton Road Rural Living Precinct and the Treendale Road Rural Living Precinct respectively. The spatial extent of these are shown in Figure 7. For each precinct, preparation of a structure plan and approval by the WAPC will be required prior to subdivision of the land for rural living purposes.

Strategic Direction 15 provides for the designation of new rural living areas in locations contiguous with selected settlements. The rationale for requiring new rural living to be in locations contiguous to settlements, as opposed to locations remote from settlements, is as follows:

- provide social and economic benefit to existing settlements, thereby adding vitality
- facilitate connection to existing utility infrastructure networks, such as drinking water
- reduce the servicing and maintenance costs to local governments
- minimise strain on firefighting services in the event of a bushfire.

The term 'contiguous' should be understood in the context of *State Planning Policy 3.0: Urban Growth and Settlement*, which states that planning for rural living development should give preference to locations near existing settlements with available services and facilities in order to support the local community and avoid locations where services are not available or costly extensions are necessary.

Local governments are to utilise their respective local planning frameworks to identify specific locations for new rural living areas. New rural living areas are to be consistent with the planning requirements for rural living precincts outlined in Section 5.3(c) of *State Planning Policy 2.5: Rural Planning*.



12. Implementation

The vision for Bunbury-Geographe outlined in this Strategy is bold and ambitious. Achieving the vision will require a shared approach across government, industry and the community.

The WAPC will help to implement the Strategy in performing its functions under the *Planning and Development Act 2005*, including:

- administering the Greater Bunbury Region Scheme
- ensuring local planning strategies and schemes are consistent with the Strategy, and advising the Minister on such instruments
- monitoring and forecasting land supply for the timely supply of affordable residential land
- making statutory decisions on a range of planning application types, such as structure plans and subdivisions.



Image courtesy City of Bunbury

The Department of Planning, Lands and Heritage supports the WAPC and provides advice to the State Government, including other supporting departments and agencies. The Department will coordinate with infrastructure and service providers to align their respective capital works programs with the directions of this Strategy.

The role of local governments in implementation is to interpret at the local level the sub-regional scale direction provided by this Strategy. This may involve the reviewing and updating of their respective local planning frameworks over time. Local governments are also to maintain the spirit and intent of the Strategy in their role as planning decision-makers.

The Gnaarla Karla Boodja Regional Corporation and South West Boojarah Regional Corporation are expected to commence operations during the life of this Strategy. Engagement with those regional corporations to implement the Strategy may be required at that time.

Details on the actions required of the WAPC and local government to implement the strategic directions is provided in Appendix 2.

Development of new urban land, as well as consolidation of existing urban areas, will require significant upgrades and additions to existing essential service networks. The Strategy outlines a clear intent for growth and provides a degree of confidence to infrastructure providers on the future growth trajectory of Bunbury-Geographe.

Alignment between the development industry and infrastructure providers will also be crucial to ensure the release of housing and employment land is commensurate with anticipated population growth.

Most importantly, implementation of the Strategy will largely be determined by market forces. The vision outlined in the Strategy will only be realised if households and the private sector make personal and business decisions to live in and invest in the Bunbury-Geographe sub-region.

13. Monitoring and review

The Strategy takes a long-term view to planning for the sub-region, with a time-horizon to 2050. The ongoing monitoring of land supply, population trends and infrastructure investment will ensure that the Strategy is responsive to changing rates of urban, population and economic growth.

The WAPC produces the annual *Urban Growth Monitor* to track the availability of land zoned for urban development in areas subject to a region scheme. The *Urban Growth Monitor* provides detailed information and analysis on other key stages of the land supply process including:

- consumption rates of urban zoned land
- how long the current land supply will last
- the rate of residential infill development
- density trends.

The WA Tomorrow population forecasts are produced by the WAPC in collaboration with the Department of Treasury. The forecasts represent a best estimate of future population size and age-sex structure if trends in fertility, mortality and migration continue.

Other monitoring tools undertaken by the Department of Planning, Lands and Heritage on behalf of the WAPC include:

- regional land supply assessments
- land use and employment survey
- State lot activity reports
- Housing Industry Forecasting Group reports and updates.

These tools will be utilised to monitor urban, population and economic growth in the Bunbury-Geographe sub-region, and to review the overall effectiveness of the Strategy. The Strategy's target population of 200,000 builds in a capacity to accommodate a level of growth beyond that anticipated over the short and medium terms. If growth rates begin to accelerate, the Strategy will be updated to ensure additional residential and employment land is identified as required.

In this way the Strategy will be robust and have capacity to respond to unknown events and trends that may impact on growth trajectories throughout the 2050 time horizon of the Strategy.

14. Amendments

The Strategy may be amended from time to time by resolution of the WAPC. The Strategy can be amended in response to a factor that impacts on the strategic planning for the sub-region, including but not limited to the following:

- changed or newly created policy under the State Planning Framework
- new or emerging trends, issues or opportunities
- new data or information with a high degree of significance on planning for the sub-region
- situations where the WAPC considers that changes to the Strategy are required for the purposes of orderly and proper planning.

Amendments to the Strategy will be listed in Appendix 3 – Amendments.



Image courtesy City of Bunbury



PART B PROFILE

15. Context

15.1 The Bunbury-Geographe sub-region

The Bunbury-Geographe sub-region is located between 120 to 240 kilometres south of Perth CBD within the South West region.

The South West is the State's most populous and economically diverse planning region outside of Perth. The region has experienced steady strong population growth over the past few decades, largely driven by the well-established economic infrastructure, agricultural and mineral resources and lifestyle opportunities. In 2019 the region had an estimated resident population of approximately 180,000 (Australian Bureau of Statistics).

The northern boundary of Bunbury-Geographe adjoins the South Metropolitan Peel sub-region, part of the Perth-Peel conurbation. Perth, the State's capital city, has great primacy in the context of Western Australia's settlement hierarchy. The WAPC's *Perth and Peel@3.5million*(PP@3.5m) provides a spatial framework for a city of 3.5 million people in 2050. The vision and directions outlined in PP@3.5m will influence the growth of the Bunbury-Geographe sub-region due to the strong connections between the two areas.

To the south is the Leeuwin-Naturaliste sub-region. This sub-region has tourist destinations and agricultural districts of State significance. In recent decades settlements such as Busselton and Dunsborough have experienced high rates of population growth from new residents seeking a 'sea-change' or 'tree-change' lifestyle. The WAPC's *Leeuwin-Naturaliste Sub-regional Strategy* seeks to balance economic, social and environmental considerations over the next 20 years.

More than 80 per cent of the State's population live on the 300-kilometre extent of the Swan Coastal Plain from Yanchep in the north to Dunsborough in the south. Decisions can be made strategically to ensure the prosperity of the Bunbury-Geographe sub-region due to its advantageous location.

The CSIRO's *Australian National Outlook 2019* identifies the significant opportunities afforded by regional satellite cities such as Bunbury:

> *"A move of population and services to satellite cities that are tightly connected to the capital cities would improve the quality of life for both".* (CSIRO, 2019)

It is possible that the ongoing growth of capital cities will result in the rise of satellite cities that are able to offer a coastal suburban lifestyle within two hours' travel from the capital city. Satellite cities such as Wollongong, Geelong and Bunbury are expected to thrive into the future if connecting infrastructure is developed, such as high-speed rail, that enables access to capital city opportunities. With tight connectivity, the satellite city is expected to provide lifestyle and housing options that contrast with what is available in their respective capital cities.

Thoughtful decisions that integrate Bunbury-Geographe with Perth and Leeuwin-Naturaliste will benefit the sub-region and the State.

15.2 Planning

15.2.1 *State Planning Strategy 2050*

The *State Planning Strategy 2050* (SPS 2050) provides an overarching strategic guide for land use planning across Western Australia. The aim of the document is to provide a sound basis for the coordination and integration of land use planning across State, regional and local jurisdictions.

The SPS 2050 identifies Bunbury as a Regional Centre "positioning to becomes the State's second CBD". Collie is identified as a Sub-regional Centre.

A key principle of the SPS 2050 is building the competitive and collaborative advantages of the regions. To achieve sustained growth, each region is to capitalise on its unique characteristics, assets and resources.

15.2.2 *South West Regional Planning and Infrastructure Framework*

The *South West Regional Planning and Infrastructure Framework* (SWRPIF) is a broad planning document that seeks to guide the future development of the South West region to 2035.

The SWRPIF addresses the scale and distribution of future population growth and identifies strategies for dealing with economic growth, environmental issues, transport, water resources, agriculture and tourism. It also includes an infrastructure component that identifies the region's priorities in providing both social and economic infrastructure to support a growing population.

The vision for the South West region, as set out in the Framework, is for a region:

> *'that generates high standards of social amenity, diverse economic activities and high-quality food, supported by effective and efficient infrastructure and at the same time preserving and enhancing the natural environment.'*

The Framework establishes a settlement hierarchy for the South West based on existing populations, current and future growth rates, and infrastructure and services. The categorisation of settlements in the Bunbury-Geographe has been further considered through the preparation of this Strategy. See Section 5 for further direction and background.

15.2.3 *Greater Bunbury Region Scheme*

The need to coordinate urban growth across the City of Bunbury and adjacent local governments emerged during the housing boom of the early 2000s. This period saw the increasing encroachment of the City of Bunbury's suburbs into surrounding jurisdictions, such as the development of the Dalyellup estate in the Shire of Capel.

The *Greater Bunbury Region Scheme* (GBRS) came into effect in 2007, giving the Western Australian Planning Commission similar statutory control over the Greater Bunbury area as in the Perth Metropolitan and Peel regions. The GBRS defines the broad pattern of land uses across the City of Bunbury and the Shires of Capel, Dardanup and Harvey and provides a statutory mechanism to implement strategic planning.

15.2.4 *Greater Bunbury Strategy*

The WAPC's *Greater Bunbury Strategy* (2013) provides for the growth of Greater Bunbury to accommodate a population of 150,000 residents. The *Greater Bunbury Strategy* identifies new urban expansion areas for urban (Wanju) and industrial (Waterloo) purposes, for which district structure plans have subsequently been prepared and endorsed by the WAPC.

The *Greater Bunbury Strategy* also encourages the consolidation of existing urban areas to ensure a compact urban form. It recognises Bunbury as the State's second city and protects the Bunbury CBD as the regional centre for the South West.

The *Greater Bunbury Strategy* includes a requirement that it be reviewed after five years to ensure the adequacy of land supply to meet the future population growth. The *Greater Bunbury Strategy* remains in force until this Strategy is endorsed by the WAPC.

15.2.5 Local planning

All six local governments in the Bunbury-Geographe sub-region have operational local planning schemes (LPS) that govern land use and development. The *Planning and Development (Local Planning Schemes) Regulations 2015* require local governments to prepare a local planning strategy for any scheme that is approved within the district. An overview of the local planning strategies and schemes in effect over the sub-region is provided below:

Figure 8 – Local Planning Schemes and Strategies

Local Government	Local planning strategy	Local planning scheme
City of Bunbury	2018	LPS 8 (2018)
Shire of Capel	1999	LPS 7 (1998)
Shire of Collie	2020	LPS 5 (2009)
Shire of Dardanup	2015	LPS 3 (1979)
Shire of Donnybrook-Balingup	2014	LPS 7 (2014)
Shire of Harvey	2020	LPS 1 (1996)

This Strategy is intended to provide direction and support to local governments to deal with issues of State and regional significance. Relevant local planning schemes and strategies are likely to need review to ensure consistency with the direction of this Strategy.

15.3 Regional development

15.3.1 *South West Regional Blueprint*

The *South West Regional Blueprint* (the Blueprint) (South West Development Commission (SWDC), 2015) outlines a guide for future development of the South West region to 2050. The Blueprint takes an aspirational view on how the South West region can grow, create new jobs, build prosperity and provide the kind of lifestyle that is important to the region.

The Blueprint was jointly published by the SWDC and Regional Development Australia South West.

15.3.2 *Collie-Bunbury Economic Development Action Plan 2020-2026*

The *Collie-Bunbury Economic Development Action Plan 2020-2026* (the Action Plan) (SWDC, 2020) outlines a coordinated response by the State Government, in partnership with local industry, workers and the community.

As a high-level strategy, the Action Plan aims to deliver an economic vision for industry and job creation. It is also a means to attract investment, deliver local outcomes through funding and to drive policy.

The Action Plan is aligned with the government's economic framework, Diversify WA and identified economic growth, industry diversification and job creation opportunities that will support the development of the Collie-Bunbury economy to at least 2026.

The Action Plan identifies 39 actions aligned with four strategic focus areas:

1. Facilitating industry opportunities
2. Providing incentives for growth
3. Ensuring infrastructure is industry-ready
4. Developing the future workforce.

This Strategy supports the implementation, from a land use planning perspective, of the Action Plan.

15.3.3 *Bunbury-Geographe Regional Growth Plan*

The *Bunbury Geographe Regional Growth Plan* (the Growth Plan) was published in December 2016. The Growth Plan resulted from an initiative to support economic development and growth in selected regional centres through:

- strengthening regional centre investment, business and employment growth capability
- accommodating regional population growth
- supporting the efficient and effective delivery of regional development and investment.

The Bunbury Geographe Economic Alliance (BGEA) leads the implementation of the Growth Plan. The BGEA describes itself as:

> *a unique partnership encompassing community leadership through the six local governments of the Bunbury Geographe sub-region, industry leadership in the resources, energy, transport, engineering, construction, water supply, timber processing, telecommunications, education, consulting and accounting sectors, and the regional leadership of the South West Development Commission.*

The Growth Plan identifies 19 priority initiatives. This Strategy supports the implementation, from a land use planning perspective, of the Growth Plan.

16. People and culture

16.1 Noongar Boodja

This Strategy acknowledges the traditional owners of the Bunbury-Geographe sub-region, past and present. The sub-region is predominantly within Noongar country, in particular the language groups of the Binjareb, Wilman, Wadandi and Ganeang. Further south the language groups are the Bibbulmun and Menang.

The Noongar people have lived in the sub-region for more than 60,000 years. Prior to British settlement Noongar people maintained a stable and successful society. Since settlement the landscape and dominant society of the sub-region has transformed. Despite the challenges of change, Noongar people in the sub-region have maintained strong connection to boodja, kaartdijin and moort (country, knowledge and family).



16.2 Settlement

After the Swan River Colony was established in 1829, Dr Collie and Lieutenant Preston explored the Murray and Leschenault areas. In 1839 the Bunbury township was mentioned in the Government Gazette and lots were surveyed and declared open for selection by 1841.

From that time on, the port and local industries, such as timber milling, coal mining and horse breeding, began to establish. Rail lines connecting Bunbury to Perth and Donnybrook were constructed in 1893. Since settlement, Bunbury-Geographe has grown into a sub-region that may be defined by its diversity. A broad range of enterprises have flourished, and a remarkably multi-cultural society has grown roots on boodja Noongar.

16.3 Native title and Aboriginal heritage

The *Native Title Act 1993* provides for the recognition and protection of Aboriginal and Torres Strait Islander people's native title rights and interests. Certain government actions, such as grants of freehold land have been found to extinguish native title.

Generally, native title is an important consideration in land use planning as land identified for certain developments may be subject to a native title claim or determination. However, due to the South West Native Title Settlement, from April 2021 the *Native Title Act 1993* ceased to apply in the sub-region.

The South West Native Title Settlement is a native title agreement that has been negotiated between the Noongar people and the State. Details of the South West Native Title Settlement are recorded in six Indigenous Land Use Agreements (ILUAs): Ballardong, Gnaala Karla Booja, South West Boojarah #2, Wagyl Kaip and Southern Noongar, Whadjuk and Yued. The majority of the Strategy area is within the Gnaala Karla Booja ILUA area. A portion of the Strategy area southwest of Capel and Balingup is within the South West Boojarah #2 ILUA (see Map 1).

A major component of the South West Native Title Settlement is the establishment of the Noongar Land Estate through the transfer of Crown land for cultural and economic development. Under the South West Native Title Settlement, the Noongar Boodja Trust will be a major landholder in the Wheatbelt and South West regions. The South West Native Title Settlement commenced in 2021.

The South West Native Title Settlement also establishes the Noongar Standard Heritage Agreement (NSHA) process, which provides a formal mechanism for State government agencies to engage with the Noongar community on matters relating to Aboriginal heritage. The NSHA also assists government bodies to comply with the *Aboriginal Heritage Act 1972*.

Across the sub-region the *Aboriginal Heritage Act 1972* applies and will continue to do so after all native-title processes are resolved. Land users must always consider Aboriginal Heritage in their planning processes. The Department of Planning, Lands and Heritage can provide advice on the application of the *Aboriginal Heritage Act 1972*.

The sub-region contains a number of registered Aboriginal Heritage registered sites and places, see data snapshot (September 2021) summary below (see Map 1).

Figure 9 – Aboriginal heritage sites and places by local government

Aboriginal Heritage Sites and Places in the Bunbury-Geographe Sub-Region		
Local Government Area	**Registered Sites**	**Places**
City of Bunbury	12	29
Shire of Capel	9	21
Shire of Collie	35	122
Shire of Dardanup	6	24
Shire of Donnybrook-Balingup	7	23
Shire of Harvey	29	119
TOTAL	**98**	**338**

16.4 Historic heritage

The sub-region is rich in historic heritage, which is reflected in the number of places that have been recognised within the area.

In terms of State heritage significance, there is a total of 71 places on the State Register of Heritage Places located across the six local governments that comprise the sub-region (see Map 1).

The local governments of the City of Bunbury and the Shires of Capel, Collie and Harvey have Heritage Lists, which have statutory effect through the respective local planning schemes. The number of historic heritage places on the local governments' heritage lists and local heritage surveys are shown in the table below.



Figure 10 – Historic heritage places

Local Government	Registered Heritage Places	Heritage List Places	Local Heritage Survey Places
City of Bunbury	35	173	222
Shire of Capel	7	37	176
Shire of Collie	8	101	148
Shire of Dardanup	3	0	67
Shire of Donnybrook-Balingup	11	0	69
Shire of Harvey	7	66	235
TOTAL –Sub-Region	**71**	**377**	**917**

16.5 Bunbury-Geographe lifestyle

The Bunbury-Geographe sub-region is known for its relaxed beach and rural lifestyle with the Regional City of Bunbury providing the focus for higher-order facilities, services and employment opportunities.

The hinterland towns are located in productive agricultural areas with picturesque landscape backdrops and are relatively close to the Bunbury Metropolitan Area.

The Strategy seeks to achieve a balance between providing opportunities for appropriate growth and high-quality development within existing settlements while retaining, as much as possible, the lifestyle, sense of place, character and identity that residents currently enjoy.



Image courtesy Shire of Dardanup

16.6 Population

The estimated resident population (ERP) of the Bunbury-Geographe sub-region has increased from 79,088 in 2001 to 106,996 in 2019 (Australian Bureau of Statistics (ABS), Estimated Resident Population). This represents an overall increase of 35.3 per cent at an average of approximately 1.70 per cent per annum.

Figure 11 shows recent census counts for the local governments in Bunbury-Geographe. The census counts for individual settlements in the sub-region are provided in Figure 12.

Population growth rates within the Bunbury-Geographe sub-region have fluctuated significantly over the past 15 years or so, largely following state-wide trends. Growth rates were very strong from 2004 through to 2013 reflecting the state-wide resource boom and associated economic bounce. Since 2013, growth rates have reduced, in line with the slowdown elsewhere in the State. From 2013-19, the sub-region's population increased from 104,182 to 106,996. – an overall growth of just 2.7 per cent, representing an annual average of 0.4 per cent.

Under four of the five *WA Tomorrow* projection scenarios, the 65 years and over cohort is likely to have the greatest level of growth by 2031. These projections reflect the existing relatively older population of the sub-region compared to the State median age.

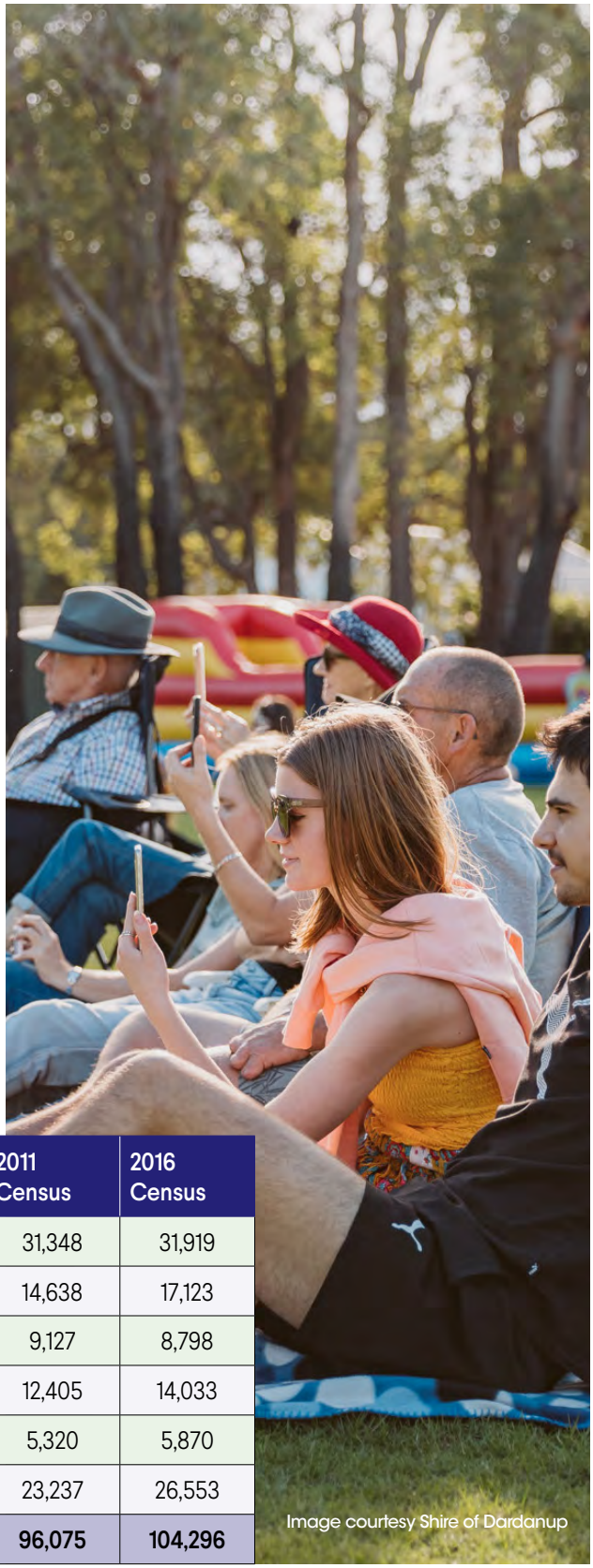

Image courtesy Shire of Dardanup

Figure 11 – 2001– 2016 Census counts for Bunbury-Geographe local governments

Local Government	2001 Census	2006 Census	2011 Census	2016 Census
City of Bunbury	28,564	29,702	31,348	31,919
Shire of Capel	6,517	10,206	14,638	17,123
Shire of Collie	8,387	8,614	9,127	8,798
Shire of Dardanup	8,332	10,339	12,405	14,033
Shire of Donnybrook-Balingup	4,297	4,741	5,320	5,870
Shire of Harvey	17,224	19,556	23,237	26,553
TOTAL	**73,321**	**83,158**	**96,075**	**104,296**

17. Urban settlement

The settlement pattern of Bunbury-Geographe is well defined with the Bunbury Metropolitan Area serving as the regional city for the sub-region and the wider South West region, Collie as a sub-regional centre, Harvey, Donnybrook and Capel as major towns and several other smaller towns and villages (see Section 5).

Figure 12 shows the population count for each settlement from the 2016 ABS Census.

17.1 Regional City

Bunbury Metropolitan Area

The Bunbury Metropolitan Area represents the largest settlement in the sub-region and is home to approximately 67 per cent of the sub-region's population. It is recognised as a regional city, and the State's second city, with facilities and services including: public and private regional hospitals and other health facilities, State and Australian Government offices, regional entertainment centre and conference facilities, regional-level sporting facilities, Edith Cowan University campus, a Year 11/12 College, TAFE college, regional library and higher-order retailing and services. The Port of Bunbury and significant industrial and service commercial areas are also located in the Bunbury Metropolitan Area.

There are significant greenfield developments underway at Kingston, Treendale, Treendale South, Millbridge, Parkridge, Glen Iris/Moorlands and Dalyellup together with the urban expansion of Tuart Brook. There are also some relatively minor low-density greenfield development sites at Meadow Landing, Gelorup, College Grove and Stratham, with significant infill and redevelopment opportunities in and around Bunbury CBD and other activity centres and corridors. The Wanju District Structure Plan was endorsed by the WAPC in 2020.

Figure 12 – 2016 ABS Census count for Bunbury-Geographe settlements

Settlement (ABS structure)	2016 Census
Bunbury Metropolitan Area (Significant Urban Area)	72,402
Collie (Urban Centre/Locality)	7,192
Harvey (Urban Centre/Locality)	2,750
Donnybrook (Urban Centre/Locality)	2,520
Capel (Urban Centre/Locality)	2,020
Binningup (Urban Centre/Locality)	1,227
Roelands (State Suburb)	845
Boyanup (Urban Centre/Locality)	806
Brunswick Junction (Urban Centre/Locality)	772
Burekup (Urban Centre/Locality)	602
Allanson (Urban Centre/Locality)	555
Peppermint Grove Beach (Urban Centre/Locality)	466
Dardanup (Urban Centre/Locality)	447
Wokalup (State Suburb)	373
Myalup (State Suburb)	353
Cookernup (Urban Centre/Locality)	352
Balingup (Urban Centre/Locality)	268
Yarloop (Urban Centre/Locality)	224
Kirup (State Suburb)	219
Mullalyup (State Suburb)	152

17.2 Sub-regional centre

Collie

Collie is the second largest settlement in the sub-region and is located approximately 60 kilometres inland from Bunbury CBD. Collie has a range of services and facilities commensurate with a sub-regional centre including a district hospital, a State senior high school, four State primary schools and a private primary school, recreation centre, swimming pool, local government office, an airstrip, and recreational and social facilities.

Collie serves the local population and a number of Wheatbelt settlements to the east. There are two coal mines, three power stations and two industrial areas close to the town and these provide a significant proportion of the local jobs. The Coalfields Highway has been significantly upgraded in recent years, improving travel times to Bunbury and further afield. Collie has the potential to accommodate alternative industrial land uses in the Shotts and Coolangatta industrial areas.

17.3 Major towns

Capel

Capel is a major town situated just east of Bussell Highway, and is equidistant from Bunbury CBD and Busselton (26 kilometres). The Capel River runs through the townsite in a south-east to north-west direction. There is sewer provision to the south-west of the river but none to the north-east, which limits development in that area.

Capel has a State primary school and a Christian College. There are local services and facilities in the towns including a post office, supermarket, cafés, pharmacy, local government offices, churches, recreation facilities, a pub and a light industrial area.

Donnybrook

Donnybrook is a major town in the Preston River valley approximately 37 kilometres south east of Bunbury CBD. It is surrounded by agricultural uses, including horticulture, and the associated processing of food produce. Donnybrook has a wide range of local services and facilities including a State district high school (up to Year 10) and private and State primary schools.

Harvey

Harvey is a major town situated within a rich and fertile agricultural area beneath the Darling Scarp approximately 45 kilometres from Bunbury CBD. It is renowned for dairy, beef, horticulture and viticulture, which thrive on Harvey Water's irrigation associated with the Harvey Irrigation District. The areas to the north, south and west of the townsite lie within the GBRS Strategic Agricultural Resource Policy Area, and are predominantly delineated by a network of irrigation channels.

The town serves as a local service centre for neighbouring rural areas and surrounding smaller settlements such as Wokalup, Cookernup, Yarloop, and Myalup.



Capel River mouth

17.4 Towns

Balingup

Balingup is a town situated in the Preston River valley on the South Western Highway 67 kilometres south east of Bunbury CBD. There is significant proportion of dwellings used as holiday homes in Balingup. Almost 25 per cent of the dwellings in Balingup were unoccupied at the time of the 2016 Census, indicating that there may be a strong second home ownership trend in the townsite.

Balingup acts as a service and tourist centre for the surrounding rural hinterland. There is a State primary school, visitor centre, service station, cafes, churches, post office, sporting complex, tavern, general store and several visitor accommodation options.

Boyanup

Boyanup is a town located 21 kilometres south-east of Bunbury CBD. The South Western Highway runs north-south through the townsite. The Greenbushes-Picton railway line also runs through Boyanup. The Preston River borders the eastern side of the town.

The town has a range of services and facilities including: tavern, chemist, general store and newsagent, café and lunch bar, post office, butcher, State primary school, churches, skate park, community hall, and liquor store. There is reticulated sewer provided on the western side of the river which is pumped south to the Water Corporation's Donnybrook Sewer Treatments Works.

Brunswick Junction

Brunswick Junction is a town situated 27 kilometres north east of Bunbury CBD either side of the South Western Highway and adjacent railway line. It has a small range of local facilities including State and private primary schools, pub, local shops, caravan park, agricultural showgrounds and a stop for the Australind passenger rail service.

Burekup

Burekup is a town situated immediately south of the South Western Highway, 15 kilometres east of Bunbury CBD. It has a general store and newsagent, State primary school, Anglican church, tennis and basketball courts and playing fields.

Dardanup

Dardanup is a town situated 15 kilometres south east of Bunbury CBD centred to the east of Boyanup Picton Road. It lies at the entrance to the Ferguson Valley. It has a sports ground, private and state primary schools, tavern, veterinary centre, general store, pub, service station, library and council offices.

17.5 Villages

Allanson

Allanson is located seven kilometres to the west of Collie. It is one of the larger villages in the sub-region. Allanson has a State primary school, part-time post office and general store, and oval.

Binningup

Binningup is a larger beachside settlement nestled behind the primary dune and can only be accessed by a single road. It is located approximately 28 kilometres north of Bunbury CBD. The nearest activity centre is at Australind, approximately 20 kilometres to the south. Binningup contains a general store with fuel pumps, a village hall, caravan park, bowling green and golf course. There is reticulated sewer and desalination plant.

Cookernup

Cookernup is a village situated 10 kilometres north of Harvey. It has a post office, community hall, Australind rail stop and a general store.

Kirup

Kirup is a village situated 17 kilometres south of Donnybrook. It has a primary school, tavern and a local fresh produce grocer as well as extensive orchards and vineyards.

Mullalyup

Mullalyup is a village six kilometres south of Kirup. It is known for the Blackwood River Valley and agricultural land uses.

Myalup

Myalup is a village approximately three kilometres north of Binningup. Myalup is on the coast and can only be accessed by a single road. It has a general store, community centre, one caravan park and beachfront chalet accommodation. Myalup is known for its pristine white sand beach and stromatolites.

Peppermint Grove Beach

Peppermint Grove Beach is a village approximately 28 kilometres south of Bunbury CBD and six kilometres north west of Capel. Peppermint Grove Beach is on the coast and can only be accessed by a single road. There is a caravan park with an associated shop. The nearest services and facilities are at Capel.

Roelands

Roelands is a village approximately 20 kilometres east of Bunbury CBD and five kilometres south of Brunswick Junction. There is a private school/ college immediately south of the village.

Wokalup

Wokalup is a village located approximately 4 kilometres south of Harvey. The village makes use of services located in Harvey. There is a cheese making tourist attraction and WA College of Agriculture campus located in Wokalup.

Yarloop

Yarloop is located approximately 15 kilometres north of Harvey. Yarloop was devastated by a bushfire in January 2016 which destroyed many buildings. Since the 2016 bushfire Yarloop has been in a process of recovery and reconstruction. The primary school has reopened, and a new community centre has been built.



Peppermint Grove Beach

18. Economy

18.1 Sub-regional overview

The Bunbury-Geographe sub-region supports a strong and diverse sub-regional economy that continues to attract residents to live and work in the area. There is also potential for increased economic development.

The region has the most diversified economy of all the State's nine non-metropolitan regions. The most significant industry sectors driving the sub-regional economy are:

- Construction
- Manufacturing
- Health Care and Social Assistance
- Electricity, Gas, Water and Waste Services
- Mining
- Rental, Hiring and Real Estate Services
- Retail Trade
- Education and Training
- Information Media and Telecommunications
- Transport, Postal and Warehousing
- Arts and Recreational Services
- Agriculture, Forestry and Fishing.

The sub-region has a number of key advantages such as a large, broadly-skilled workforce; significant areas of residential land to enable population growth; modern port and freight infrastructure; the construction of the Bunbury Outer Ring Road which will provide direct access to Perth via the Forrest Highway; and affordable housing and a relaxed lifestyle.

To facilitate continued economic growth, areas of industrial land have been identified within the Bunbury Metropolitan Area at Waterloo and Picton. These industrial areas are expected to meet demand for affordable, well-located land that can be used for a variety of industrial and technological purposes. Given its proximity to Perth, the sub-region has the potential to be the hub of the State's technology development sector, particularly in collaboration with the tertiary institutions that are well-established in Bunbury.

Economic expansion will be dependent upon both private and public investment as well appropriate government agencies promoting and facilitating the growth.

Bunbury functions as the commercial and administrative hub of the broader South West region and some parts of the western Wheatbelt region. Continued population growth in Bunbury and the broader South West region is likely to generate opportunities for further commercial and retail development. This, however, is tempered by the increasing popularity of online shopping.

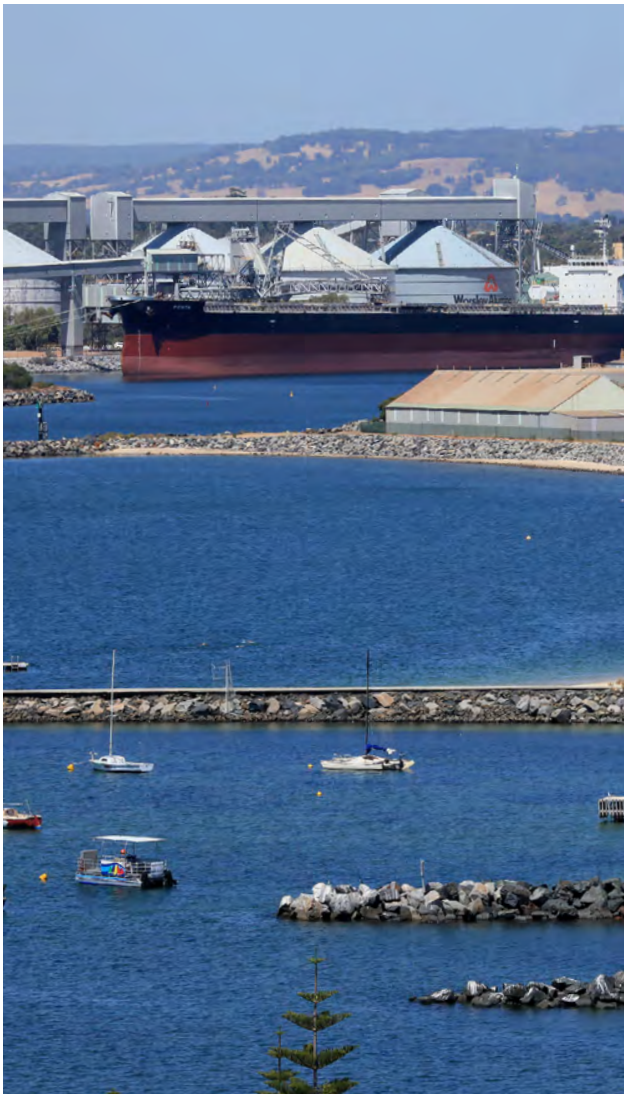
Agriculture is a long-established industry in the sub-region (see Map 8). A wide range of agriculture is supported by the availability of large parcels of cleared and developed land, diverse soil types and the availability of good quality ground and surface water for irrigation. Beef and dairy cattle grazing underpins the subregion's livestock industries and have their value added to by domestic and export meat and dairy processing facilities in Bunbury, Harvey and Brunswick. Fruit production remains significant in the Donnybrook and Harvey areas. The Myalup area is a thriving vegetable growing area focused on the local and export market. The Geographe Wine Region is located in the sub-region, with wine grapes and wineries located from Harvey to Capel, the Ferguson valley and near Collie and Donnybrook.

Alumina from the Worsley Refinery is the major export through the Port of Bunbury but uncertainty in the global economy has seen further expansion at Worsley Refinery delayed. Production remains high and it retains its place as a major employer and contributor to the local economy (see Map 9). Minerals sands from local deposits are also an important export commodity moved through the port.

Collie is renowned for its coal mining and power generation (see Map 9). Both industries are still progressing, but the long-term future of both coal mining and the use of coal-fired power stations may impact the town. Collie has received significant investment form the State and remains critical to the existing State electricity generation and transmission network. Future technological changes may still require existing infrastructure based on Collie.

The Collie Futures Fund was set up by the State Government to transition Collie away from its traditional industries and look to the future through consideration of alternative industries. Current initiatives include Westrac's autonomous vehicle training facility, the Renergi Waste to Energy, Cannaponics Medicinal Cannabis, Hollista Colltech and the International graphite hub.

The long-established Port of Bunbury continues be a significant piece of freight infrastructure. It not only generates an income through its ship loading facilities but also as a distribution point for the sub-region's major exports which include alumina, aluminium hydroxide, minerals sands, silica sand, silicon dross, spodumene, scrap metal and woodchips.



[1] Bunbury-Geographe Economic Profile, Regional Development Australia, May 2020

18.2 Employment

When considering the economic well-being of the Bunbury-Geographe sub-region, an important factor is the level of employment within individual industry sectors. The level of employment has a direct impact on the social well-being of the local population and enables as many people as possible to add to the local economy through spending.

Figure 13 shows the number of full-time equivalent (FTE) jobs by industry sector located within the sub-region, based on a 38-hour work week [1].

Figure 13 – Level of employment by industry sector (Bunbury-Geographe Economic Profile, Regional Development Australia, May 2020)

Industry Sectors	Jobs FTE	Proportion
Manufacturing	4,547	12.3
Construction	4,412	12.0
Health Care and Social Assistance	4,298	11.7
Retail Trade	3,763	10.2
Education and Training	3,221	8.7
Public Administration and Safety	2,091	5.7
Mining	2,054	5.6
Agriculture, Forestry and Fishing	1,715	4.7
Transport, Postal and Warehousing	1,691	4.6
Other Services	1,648	4.5
Accommodation and Food Services	1,594	4.3
Professional, Scientific and Technical Services	1,216	3.3
Electricity, Gas, Water and Waste Services	1,049	2.8
Administrative and Support Services	868	2.4
Wholesale Trade	726	2.0
Rental, Hiring and Real Estate Services	660	1.8
Financial and Insurance Services	573	1.6
Arts and Recreation Services	408	1.1
Information Media and Telecommunications	287	0.8
Total	**36,822**	

18.3 Industrial land

The *Greater Bunbury Regional Land Supply Assessment* (2015) identified that approximately 6,270 hectares of land were zoned for industrial use. There were a range of lot sizes on land zoned for industrial purposes in the Greater Bunbury sub-region, with many lots sized between 2,000 and 5,000 m^2.

Another 510 hectares of industrial land is also located in Collie, of which 210 hectares is located within the Shotts Strategic Industrial Area and approximately 300 hectares in the Coolangatta Industrial Park, identified for General Industry. The Coolangatta industrial area is also adjacent to the Bluewaters Power Station.

The Kemerton Industrial Park has been identified as one of the State's strategic industrial areas for heavy industry to provide downstream processing and value-adding to the sub-region's extensive primary resources, for export or domestic markets. There is also potential for a future rail connection to the industrial park if required.

The Waterloo Industrial Park and the North Picton and South Picton Industrial Parks have potential for transport, logistics, general industry and agri-food processing. There are potential synergies between these parks and the Port of Bunbury.

There is a possibility to extend Iluka's North Capel mineral sands site. The existing North Capel industrial area has good access to road, rail, power, high-pressure gas pipeline, and a sizeable local resident workforce. It is considered that the site has good prospects as a special industry estate into the future.

Previous studies have also identified additional areas to accommodate general industry in the Preston Industrial Park. There appears to be demand for properties, however the proposed expansion site has significant constraints which require further investigation and negotiation to determine its development potential.

Light industrial land is an important contributor to enterprise, innovation and employment. There are a number of light industrial areas throughout the sub-region. Generally, demand for light industrial land is assessed by the local governments and identified in local planning strategies.

18.4 Basic raw materials

Basic raw materials (BRM) include sand, limestone, gravel, clay, gypsum, hard rock, agricultural lime and other construction and road building materials.

These materials are required for a number of uses with most relating to the construction industry including buildings, fill, roads and retaining walls. It is important to have access to local sources as this reduces costs and pollution associated with transportation.

There are numerous operating and potential BRM extraction sites in the sub-region (see Map 10). More than half of these are on Crown reserves vested with the local or State government for gravel. The remaining extraction sites are administered by the various local governments under the *Planning and Development Act 2005*.

Demand for BRM in the Perth and Peel regions is expected to remain high, while access to deposits in those regions is expected to diminish. This is likely to increase demand for BRM from the South West region.

To avoid land degradation and/or sterilisation, post extraction the landscape should preferably be restored to conditions that are similar to the surrounding environment, including physical and biological processes and be able to be used in accordance with the current zoning.

18.5 Lightweight construction

Residential building construction on the Swan Coastal Plain over the past 50 years has relied predominantly on single-storey brick and tile on a concrete slab, over land requiring significant sand fill and other materials for ancillary works. This type of construction may become less sustainable into the future as the availability of fill sand and associated building materials continues to decline and the cost continues to rise.

This will provide the opportunity for other methods of construction to compete with the traditional brick-and-tile. Lightweight construction homes require less fill and incorporate more

renewable building products such as timber and lightweight composites for cladding and interior fit-out. Lightweight construction homes can range in appearance from ultramodern to traditional weatherboard and there is a variety of claddings and finishes available.

Lightweight construction homes enable high environmental credentials and diverse openings for passive solar heating, natural light and ventilation. The availability of local timber in the South West provides the opportunity local resources to be utilised widely in the sub-region, allowing for buildings to offer a local distinctiveness.

The timber precinct located at Moore Road in Dardanup has the potential to become the centre for a new lightweight timber construction plant servicing the entire South West and beyond.

18.6 Tourism

The Bunbury-Geographe sub-region is host to a unique natural landscape consisting of five significant rivers with scenic valleys, five major dams, around 80 kilometres of coastline, four national parks, two regional parks, State forest and picturesque rural land. The sub-region's dairy, wine and horticultural industries are gaining prominence in attracting food and wine inspired visitors. Future tourism prospects for the sub-region are linked to population growth, rising global interest in nature, food and wine tourism experiences and the promotion of more local 'getaway' holidays.

The State Government has worked closely with the City of Bunbury regarding the upgrade to the Dolphin Discovery Centre, the revitalisation of the Koombana Beach foreshore and the Mangrove Cove walk trail around the Leschenault Inlet. This transformation is likely to continue as the area around the Bunbury CBD is further developed.

In more rural areas, particularly the Ferguson Valley, there has been significant progress in the food and wine industry which serves as an important tourism attractor.

Specific to the Collie area, the State Government, through the Collie Futures Fund, has been progressing the expansion of tourism opportunities. Funding has been allocated for the various trails and mountain bike facilities as well as increasing the amount of short-stay accommodation to meet demands.

A consideration for future tourism in the sub-region is the development of opportunities for heritage tourism. There are many places of State and local heritage significance that convey the story of the State and sub-region's history and development.


Image courtesy Shire of Dardanup

19. Environment

19.1 Climate

The sub-region has a temperate Mediterranean climate with wet and cool winters and dry and warm summers. Climate change has resulted in a drier climate during the winters and slightly wetter summers, although overall annual average rainfall is decreasing (see Figure 14). Compared to the coast, temperatures are cooler inland in winter and warmer in summer.

Climate modelling from CSIRO and Bureau of Meteorology indicates the South West is projected to experience higher average temperatures and an ongoing decline in annual rainfall in the future. As an example, two sets of projections for rainfall decline are presented in Figure 15, created using two global greenhouse gas emission scenarios: RCP 4.5 representing an intermediate emissions pathway, and RCP 8.5 representing a high emissions pathway. Global emissions are currently closely tracking the RCP 8.5 pathway. The grey shading indicates the period of the historical simulation, while two future scenarios are shown with colour-coded shading: RCP 8.5 (purple) and RCP 4.5 (blue).

Figure 14 – Comparison of Bunbury's monthly average rainfall and average maximum temperature 1945-1974 to 2007-2020 (1945-1974 and 2007-2020 data sourced from weather station 009514 Bunbury Post Office and 009965 Bunbury respectively, Bureau of Meteorology, Australia).

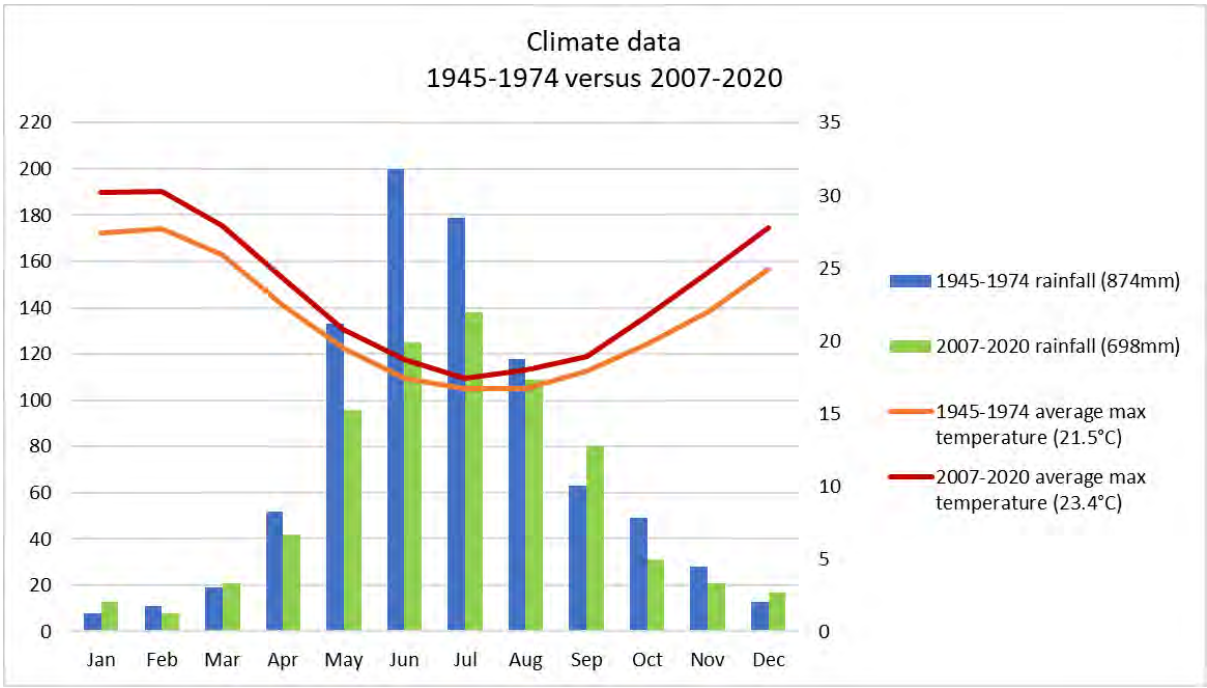
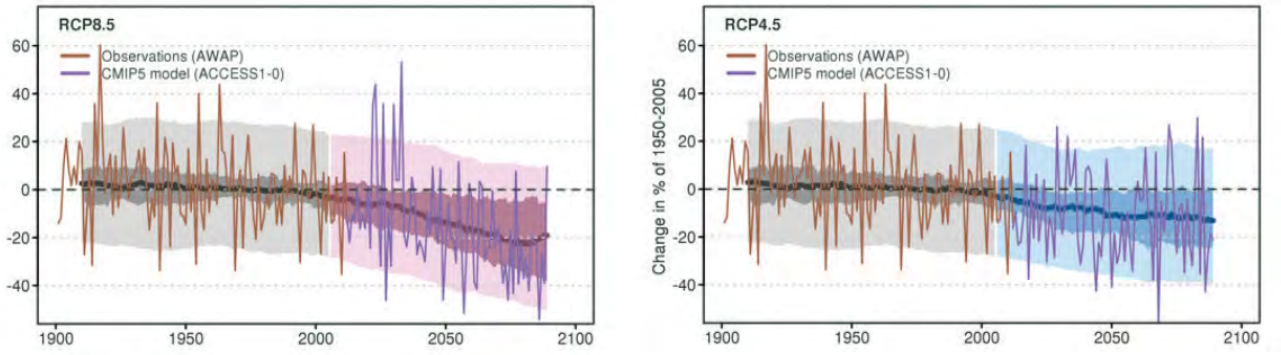


Figure 15 – Time series for the Southern and South West Flatlands Annual Rainfall for 1910-2090, expressed as a percentage change relative to the 1950-2005 mean. (Hope, P. et al. 2015, Southern and South-Western Flatlands Cluster Report, Climate Change in Australia Projections for Australia's Natural Resource Management Regions: Cluster Reports, eds. Ekström, M. et al., CSIRO and Bureau of Meteorology, Australia).



The Bunbury-Geographe sub-region is broadly divided into two distinct landscape units:

- the Darling Plateau - an ancient 'Archaean Block' to the east of the sub-region with a moderately dissected lateric plateau on granite with incised valleys, with its western boundary formed by the Darling Fault extending north and south
- the Swan Coastal Plain - to the west of the Darling Fault, and north and west of the Whicher Scarp, with Phanerozoic[2] sedimentary deposits of the Perth Basin.

The *Interim Biogeographic Regionalisation for Australia* (IBRA) (Version 7, 2016) also identifies portion of the sub-region as Jarrah Forest. The Jarrah Forest IBRA region is split into two sub-regions, northern Jarrah Forest (JAF01) and southern Jarrah Forest (JAF02).

The whole of the Swan Coastal Plain within the sub-region lies within the IBRA sub-region SWA02 Perth.

On its coastal fringes, the Swan Coastal Plain comprises gently undulating coastal dunes and estuaries, from Preston Beach to Bunbury, running parallel to the coast. Almost two thirds of the coastal plain is made up of the wetlands and woodlands of the Pinjarra Plain (see Map 4). Much of the Pinjarra Plain is subject to waterlogging and inundation (see Map 5) during the wet winter and early spring months.

To the east and north of Bunbury the inland boundary of the Swan Coastal Plain is formed by the foothills of the Darling Range and the Darling Scarp.

To the east and south-east of Bunbury the inland boundary of the coastal plain is formed by the Whicher Scarp. Beyond the Whicher Scarp, to the south-east of Boyanup townsite, lies the Donnybrook sunklands, a gently undulating lateritic plateau dissected by shallow valleys and comprising a single soil landscape zone.

[2] Phanerozoic – the current geological Eon, covering the period from 541 million years ago until the present when visible life began to form and flourish.

19.2 Acid sulfate soils

On the Swan Coastal Plain, there are acid sulfate soils which when exposed to air react with oxygen and water to produce iron compounds and sulfuric acid. The latter can release other substances, including heavy metals, from the soil into the surrounding environment and waterways.

The acid sulfate soil risk mapping within the sub-region indicates 'high to moderate risk' within three metres of the surface associated with the coastal dunes, river valleys and low-lying depressions. The remainder of the coastal plain within the sub-region is predominantly mapped as 'moderate to low risk'.

19.3 Biodiversity

The Bunbury-Geographe sub-region is part of the South Western Australia Global Biodiversity Hotspot which stretches from Geraldton in the north to Esperance in the south east. It is a region with a high concentration of rare and endangered species, hence its biodiversity hotspot classification (see Map 6).

Since 2001 there has been a 76 per cent increase in the number of species considered to be threatened, endangered or extinct. The Western Ringtail Possum is classified as critically endangered and faces increasing threats from climate change, habitat clearing and fragmentation, and predation by feral and domestic animals. The Baudin's, Carnaby's and Red-tailed Cockatoos are also endangered species.

DBCA has reported that since 2001 in the wider South West region there has been an increase in threatened species, including:

- two additional mammal species
- nine additional bird species
- five additional fish species
- seven additional invertebrate species.

The natural vegetation of the Swan Coastal Plain has a rich understory, including acacia and banksia species, and relatively few trees species, with the tuart, marri and jarrah as the dominant species. At the foot of the Darling Scarp there is a narrow band of jarrah-marri forest mixed with wandoo on heavier soils and sheoaks on sandier soils.

Behind the primary coastal dunes there is low scrub and heathland. Myrtles and buttercups are on the coastal flats and tuart and peppermint woodlands occur in the more inland sands above limestone.

As part of the work contributing to the establishment of the GBRS, the Environmental Protection Authority (EPA) published a strategy to identify regionally significant natural areas in its consideration of the Greater Bunbury portion of the Swan Coastal Plain (EPA, 2003).

On the Pinjarra Plain there are *"few remaining areas of native vegetation and what does remain occurs in small remnants many of which are trees over pasture. It is expected that all remnants will contain threatened ecological communities."* (EPA, 2003).

It is estimated that 80 per cent of the original native vegetation on the southern Swan Coastal Plain within Greater Bunbury has been cleared and the vast majority (almost 90 per cent) of the remaining remnant vegetation is in areas of less than five hectares.

Several plant communities are considered 'poorly represented', meaning there is less than 30 per cent remaining of the original pre-European extent.

Tuart Forest National Park

The Tuart Forest National Park (2049 hectares), comprising two separate Class 'A' reserves, is situated on the south-western boundary of the sub-region between Stirling Estate and Wonnerup. It protects the largest remaining tuart forest in the world and contains the largest and tallest specimens of tuart trees on the Swan Coastal Plain with some trees more than 33 metres tall and 10 metres in girth. The National Park also helps protect the State's largest population of the critically endangered western ringtail possum.

Wellington National Park

Wellington National Park consists of 17,000 hectares of jarrah, marri and karri forests situated in the Shire of Collie, west of the Collie townsite, and focused around the Collie River valley. A management plan for the National Park was published in 2008 by the then Department of Environment and Conservation. The National Park has significant conservation, water supply and visitor/recreation roles.

Preston National Park

The Preston National Park is situated across four local government areas, including the Shire of Collie and Donnybrook-Balingup, and takes in parts of old-growth jarrah, marri and wandoo forests 30 kilometres south of the Collie townsite. The National Park is split into two separate land parcels each of about 6000 hectares.

Yalgorup National Park

The Yalgorup National Park is located across three local government areas, including the Shire of Harvey, on the western edge of the Swan Coastal Plain north from Lake Preston in Myalup. It contains a system of 10 lakes, including Lake Preston, which is a significant habitat for migratory waterbirds and amphibians and is recognised under the international Ramsar Convention.

Leschenault Peninsula Conservation Park

The Leschenault Peninsula Conservation Park is an extensive (1,461 hectares) conservation park lying between the coast and Leschenault Estuary. There is an extensive peppermint and tuart woodland behind the foreshore dunes.

Bunbury Regional Park – Preston to Ocean and Leschenault

There has been a long-standing vision for two regional parks within the Greater Bunbury area which was advanced through the planning for the GBRS. This vision was realised initially when the *Preston to Ocean Regional Park Establishment Plan* was published in 2011, setting out the park in a seven kilometre east-west corridor on the southern side of the City of Bunbury, extending from the western bank of the Preston River at Davenport to the coast.

In 2017 the *Leschenault Regional Park Establishment Plan* was published setting out the proposals for the regional park. The plan includes land along the Brunswick River and lower Collie River westwards across the Swan Coastal Plain, and the Leschenault Peninsula Conservation Park between the estuary and the ocean.

More recently it has been proposed to merge the regional parks to create a single regional park providing a continuous regional reserve extending from the coast, encompassing the areas around the Leschenault Estuary and the riparian zone of the Collie and Brunswick Rivers.

It is noted that under the Noongar Standard Heritage Agreement, the Department of Biodiversity, Conservation and Attractions will enter into Cooperative and Joint Management Agreements with the Gnaarla Kaarla Boodja Regional Corporation (proposed) and South West Boojarah Regional Corporation (proposed).

Fragmentation of some ecological linkages still occurs, which impacts on conservation of biodiversity including the potential sustainability of critically endangered species. These linkages were assessed in 2009 and reported on in the *South West Regional Ecological Linkages Technical Report* (WALGA/DEC 2009).

19.4 Water

19.4.1 Surface water

The sub-region lies within four surface water catchments:

- Leschenault – the Wellesley, Collie, Brunswick, Ferguson and Preston rivers which drain in the Leschenault Estuary. Approximately 71 per cent of the Leschenault catchment is covered by native vegetation
- Geographe – the Capel River
- Warren-Blackwood – the Balingup Brook which flows into the Blackwood River
- Peel-Harvey – the Harvey River which flows into the Peel-Harvey Estuary.

Surface water run-off and streamflow within these catchments have significantly diminished over recent years due to climate change. Availability will continue to be detrimentally impacted with continued reductions or persistence of lower than average annual rainfall. Such declines on streamflow are of a higher magnitude than those declines identified in rainfall.

Leschenault Catchment – Leschenault Estuary

The Leschenault Estuary is one of the larger waterbodies in Western Australia with an area of 27 square kilometres. It is approximately 14 kilometres long and two kilometres wide. Leschenault Estuary is a valuable natural asset in terms of waterbirds, fringing and aquatic vegetation, and fish habitat. The estuary drains the catchments of the Wellesley, Brunswick, Ferguson, Collie and Preston rivers as well as receiving runoff from adjacent land and agricultural drains.

The estuary's catchment area is more than 1,900 square kilometres, covering most of the Bunbury-Geographe sub-region. The estuary environment includes the main body of the estuary, which is very shallow (less than two metres deep), and the salt water portions of the Brunswick and Collie rivers.

The Preston River has been modified by the development of the Port of Bunbury, and is connected to the main body of the estuary. There is also a man-made cut opposite the confluence of the Collie and Brunswick rivers connecting the estuary to the ocean. The Wellington Dam on the Collie River is the largest surface water storage in the South West region.

The estuary supports a wide range of recreational activities for local residents and for a large tourism sector. The estuary and associated water bodies provide an aesthetic backdrop to the City of Bunbury and Australind.

The Leschenault estuary is heavily affected by eutrophication (through large loads of nutrients entering the wetlands, waterways and ocean) due to agricultural and urban land uses and is showing signs of stress. Nitrogen and phosphorus loads reaching the estuary require reduction as a matter of urgency. Future urban development and intensification of land uses are projected to increase the current loads to the estuary, particularly in the sub-catchments already in the 'recovery' or 'intervention' categories, as identified in the *Leschenault Estuary Water Quality Improvement Plan* (DoW, 2012).

Geographe Catchment – Capel River

The Geographe catchment extends from Gelorup in the north to Eagle Bay in the west and east to Kirup. It is bounded by the Darling Range, the Whicher Range and the Leeuwin-Naturaliste Ridge. Below these ridges is an extensive coastal plain characterized by sandy soils and poorly drained flats, wetlands and river systems that flow to Geographe Bay.

The wetlands system is made up of the Vasse and Wonnerup estuaries and their exit channels, which are located to the west of the Bunbury-Geographe sub-region. More than 30,000 waterbirds comprising 90 different species make use of the habitat provided by the wetlands each year, making them one of the most important waterbird habitats in Western Australia. They are on the Ramsar Convention's internationally-recognised list of Wetlands of International Importance.

Poor sandy soils, agricultural practices and urban expansion has led to water quality problems in the catchment's waterways from nutrient run-off. Reducing nutrients leaving rural and urban areas is a key priority for the *Revitalising Geographe Waterways* initiative.

Warren-Blackwood Catchment

The Blackwood River has a catchment of 28,100 square kilometres stretching well into the Wheatbelt region. Only the southern part of the Shire of Donnybrook-Balingup, including Balingup Brook and Mullalyup Brook, lie within the Blackwood catchment.

Peel-Harvey Catchment – Lake Preston

The Peel-Harvey Estuary and Yalgarup wetland system, including Lake Preston, are together on Ramsar's internationally-recognised list of Wetlands of International Importance under the Convention of Wetlands in 1990. This reflects their considerable ecological, recreational, commercial and scientific interest. The natural waterways run eastwards and northwards into the Peel-Harvey Estuary, while the Harvey Diversion Drain runs almost due west to flow into the ocean south of the settlement of Myalup. Most of the Ramsar site lies to the north of the Bunbury-Geographe sub-region.

The Peel-Harvey Estuary and Yalgarup wetland system are internationally significant habitats for waterbirds and migratory wading birds. Thousands of waterbirds gather each year with over 80 species recorded. 27 of these are listed on the Japan-Australia Migratory Bird Agreement and the China-Australia Migratory Bird Agreement (Environmental Protection Authority, 2003).

The *Water Quality Improvement Plan for the Rivers and Estuary of the Peel-Harvey System - Phosphorus Management* (EPA, 2008) aims to improve water quality by reducing phosphorus discharges from the catchment through changes to agricultural and urban practices and land-use planning. Further to this work, *Bindjareb Djilba: a Plan for the Protection of the Peel-Harvey Estuary*, was published by the *Department of Water and Environmental Regulation* (DWER) in 2020. It collates actions across the estuary and its catchment and asks for many groups to work together to protect the estuary's values for future generations.

19.4.2 Groundwater

The following descriptions relate to groundwater resources proclaimed under the *Rights in Water and Irrigation Act 1914*:

Superficial and Surficial aquifers

The superficial aquifer generally extends from the coast to the Whicher and Darling scarps and forms the water table aquifer on the coastal plain. Much of this area comprises palusplain and as such experiences high seasonal water tables, expressing at surface.

The sediments on the Swan Coastal Plain are collectively termed the superficial formations and comprise the Yoganup, Guildford, Bassendean Sand, Tamala Limestone and Safety Bay Sand Formations. Apart from the coastal dunes, the formations are generally less than 10m thick (saturated thickness) and are only a few metres thick on the western part of the coastal plain.

The superficial aquifer is separated in places from the underlying Leederville Aquifer by a confining layer called the Mowen Aquitard.

Leederville Aquifer

The Leederville Aquifer is a confined aquifer that underlies the superficial formations on the coastal plains and is separated by the Mowen Aquitard.

This aquifer is typically about 100m thick, reaching over 200m in places. The Leederville Aquifer is the most widely used aquifer on the Swan Coastal Plain, as it is relatively shallow, contains generally fresh groundwater and is higher yielding than the superficial aquifer.

The 2012–2015 South West groundwater areas allocation plan evaluation statement identified that rainfall in the South West is now about 16 per cent less than the long-term average. This climatic trend is set to continue, with almost all global climate models projecting lower rainfall in this part of the state over the coming decades. Reduced rainfall and higher temperatures mean less recharge to groundwater systems.

Since the last evaluation in 2012, groundwater levels in the Leederville Aquifers have continued to decline. A seawater interface was identified as being close to or intersecting the coast between Dunsborough and Bunbury in the South West groundwater areas allocation plan. Diminishing recharge and continued use of groundwater means we need to carefully manage the risk of the seawater interface moving further inland and affecting the quality of our freshwater groundwater resources.

Yarragadee Aquifer

The Yarragadee Aquifer extends from the coast to the Darling Scarp for the majority of the sub-region area.

It is a mostly confined aquifer and is separated from the overlying Leederville Formation by the discontinuous aquitards formed by the Bunbury basalt and shale units of the Parmelia Formation. The Yarragadee Aquifer is unconfined where it subcrops beneath the superficial aquifer on the Swan Coastal Plain.

It is the largest aquifer system in the sub-region area, occurring throughout and contains mostly fresh groundwater. The aquifer thickness ranges from about 300 to 1700 m within the Bunbury Trough through the main part of the aquifer and is shallowest (approximately 15 m below surface) south of Bunbury.

Similar to the Leederville Aquifer and since the last evaluation in 2012, groundwater levels in the Yarragadee Aquifer have continued to decline. A seawater interface was identified as intersecting the coastline at Bunbury in the South West groundwater areas allocation plan. Diminishing recharge and continued use of groundwater means we need to carefully manage the risk of the seawater interface moving further inland and affecting the quality of our freshwater groundwater resources.

Cattamarra Aquifer

The Cattamarra Aquifer is a regionally confined multi-layered aquifer composed of siltstone and shale interbedded with sandstone. The groundwater salinity is highly variable and ranges between 250 and 26,000mg/L TDS and in general, the groundwater salinity is lower in the south than in the north. The fresher quality groundwater in the southern part of the aquifer is likely to be attributed to the throughflow from the Yarragadee Aquifer.

In the area of the Kemerton Industrial Park, the groundwater is mostly brackish. The depth and the salinity of this aquifer restrict its utilisation for consumptive use and the measurement of water levels shows they are steady.

Collie Coal Basin

The hydrogeology of the Collie Coal Basin is complex, with multiple aquifers separated by shale and coal seams with numerous faults throughout. The groundwater system of the Collie Coal Basin is highly modified. Underground and open-cut coal mining has affected the water quality which is generally acidic due to its contact with sulphide-bearing sediments.

The Collie Coal Basin has two distinct subareas, the Cardiff and Premier subareas. Each subarea has four resource groups named Nakina, Muja, Lower Collie Group and Stockton. In a pre-disturbance state it is unlikely that any significant flow of groundwater would have taken place from one aquifer to another, however as a result of mining there is a high degree of connectivity between certain resource groups.

Mine dewater is abstracted above the groundwater allocation limits within the Premier subarea. The surplus dewater is considered to be a resource, but it is not re-allocated up to an allocation limit. It is reused on an opportunity basis and within the licensed entitlement.

The area outside the Collie Coal Basin, but within the proclaimed groundwater area, has no significant water resources. Some areas of fractured rock aquifers may exist.

19.4.3 Coast

The Bunbury-Geographe coast forms part of the Leeuwin-Naturaliste Marine Bio-region which is characterised by a high-energy, south-westerly swell affected coast with a relatively narrow continental shelf. Coastal waters are strongly influenced by the warm offshore Leeuwin Current and cooler inshore counter currents.

The coast is a significant element of the Bunbury-Geographe sub-region. It runs from the Shire of Capel boundary with the City of Busselton, north of Wonnerup Estuary to the northern boundary of the Shire of Harvey with the Shire of Waroona. It includes Koombana Bay and the entries to Leschenault Inlet and Leschenault Estuary.

There are four settlements within the sub-region, in close proximity to the coast and vulnerable to the possible impacts from a changing climate including coastal erosion, coastal and fluvial flooding and inundation:

- Bunbury
- Myalup
- Binningup
- Peppermint Grove Beach.

The coast is a vitally important environmental, economic, social and recreational resource for local residents and businesses, and visitors. There are sandy beaches from the northern boundary of the sub-region through to Forrest Beach at the southern boundary of the sub-region. For the 25 kilometres north of Myalup the beach is only accessible by four-wheel drive vehicles with Lake Preston providing a barrier to access from inland.

The only interruption to the sandy coast of the sub-region is the rocky basalt outcrops at Wyalup Rocky Point. These have created the sandy cove of Koombana Bay, which has been modified to create the outer and inner harbours of the Port of Bunbury. The Transforming Bunbury Waterfront project has looked to capitalise on the aesthetic and locational assets of Koombana Bay.



With increased population close to the coast there are rising pressures on the coastal and marine environments including those associated with:

- tourism and recreation, including 4WD access to beaches
- increased use of the foreshores
- sewage disposal
- nutrient run-off and other pollutants
- climate change and sea-level rise
- erosion, inundation and sediment transport
- marine debris
- invasive species.

At the southern end of the sub-region's coast Geographe Bay supports extensive and diverse seagrass meadows that provide vital habitat for many fish and other marine fauna. It represents one of the most significant and valuable natural resources in the South West region. Protecting it from the impacts of nutrient pollution is a high priority, requiring a substantial on-going effort from government, industry and the community. Of utmost importance is achieving the right balance between protecting the bay and wetlands and facilitating continued agricultural production and further urban growth in the catchment (*Vasse Wonnerup and Geographe Water Quality Improvement Plan, 2010*).

Coastal erosion and flooding are natural processes, and where settlements have been established near the dynamic coast there has been a pattern of retreating, reclaiming and defending. More recent settlements and lifestyles are more solid and static which adds complexity when considering future development.

The Peron-Naturaliste Partnership (PNP) is an incorporated group formed in 2011 by nine local governments between Cape Peron and Cape Naturaliste in the south-west of Western Australia – City of Bunbury, City of Busselton, Shire of Capel, Shire of Dardanup, Shire of Harvey, City of Mandurah, Shire of Murray, City of Rockingham and Shire of Waroona. The overall objective of the PNP is to provide a regional mechanism to facilitate effective and timely adaptation responses to climate change. Coastal adaptation coordinators have implemented a range of projects and actions to assist land managers and communities with adaptation planning.

In 2016 the Shire of Harvey developed a Coastal Hazard Risk Management and Adaptation Plan (CHRMAP) for coastal planning, particularly in the management of coastal assets. The CHRMAP follows the regional Coastal Adaptation Decision Pathways project which identified areas where future impacts from coastal erosion and inundation are likely to affect the Harvey coast. The outcomes and recommendations provide direction for the Shire of Harvey in budget forecasts and spending on coastal assets and management.

19.5 Bushfire

State Planning Policy 3.7 Planning in Bushfire Prone Areas introduced significant implications for the planning sector and formalised the integration of fire protection into the planning process. It requires higher-order planning documents, such as sub-regional strategies, to include high-level consideration of relevant bushfire hazards when identifying or investigating land for future development.

The vast majority of the sub-region is identified by the Department of Fire and Emergency Services (DFES) as being bushfire prone (Map 7) with large areas of native vegetation, plantations and areas with significant slopes. Significant bushfire risks exist for many existing developments, settlements and infrastructure.

The State and local government, industry and the community will need to work collaboratively to reduce the risk to these vulnerable areas. Potential expansion areas within the sub-region are already cleared of most remnant vegetation thus reducing the bushfire risk. More detailed bushfire assessments will need to be undertaken at the structure plan, subdivision and development application stages.

20. Transport

20.1 Roads

The sub-region is serviced by a number of key primary and regional distributor roads (see Map 3) that provide critical local and regional linkages as well as connectivity to the remainder of the State.

Forrest Highway

Forrest Highway, opened in September 2009, is the main road linking Perth to the South West. It is 95 kilometres long and extends from the Kwinana Freeway east of Mandurah to Eelup Roundabout in Bunbury. There are many at-grade intersections along the alignment providing access onto and off the highway and connectivity for both private and freight vehicles.

Main Roads WA is considering future grade separated intersections within Bunbury, particularly around the newer suburbs in the Shires of Dardanup and Harvey.

South Western Highway

The South Western Highway begins in Perth's southern suburbs and runs through to Walpole in the Shire of Manjimup with a total length of 513 kilometres. The highway enters the Bunbury-Geographe sub-region in the Shire of Harvey just a few kilometres north of the Yarloop townsite, and exits at the Shire of Donnybrook-Balingup border just north of the Greenbushes townsite. Within the boundaries of the sub-region the highway is approximately 120 kilometres long. Historically the highway was the connecting road between Perth and the local rural communities and was built adjacent to the rail line connecting the South West to Perth.

The highway plays a significant role in sub-regional economy with much of the freight for the area transported on heavy haulage vehicles. The large-scale mining of spodumene at Greenbushes has seen a significant increase in road transport as the ore is trucked to Bunbury and then through to Perth, especially as there is currently no rail alterative. The highway is also an important tourist route and Main Roads WA is continuing to address the problems associated with the coexistence of freight and tourist traffic.

Bussell Highway

Bussell Highway runs south of Bunbury providing access to the City of Busselton and the Shires of Capel and Augusta-Margaret River. While the road is in good condition, the deregulation of the transport industry, industry development and an increasing population is placing pressure on the road system. Rapid population growth along the coast, together with increasing tourism and freight, has led to increasing traffic volumes on this highway.

Bunbury Outer Ring Road

The *Greater Bunbury Region Plan* first identified the alignment of the Bunbury Outer Ring Road (BORR) in 1986. The vision for the BORR is to cater for increasing volumes of commuter, tourist and commercial traffic coming to Bunbury, and travelling to areas further south.

When completed, the BORR will be 27 kilometres long, branch off Forrest Highway in the north near Clifton Road and join Bussell Highway in the south at Gelorup. The central section of the BORR was completed in 2013 in conjunction with the extension to the Port Access Road.

In May 2018 the Australian and State governments announced that the final two stages of the BORR were to be constructed with the Australian Government providing $560 million and the State Government providing $290 million. The BORR is expected to lead to safety improvements, less congestion and the separation of local and regional traffic. Productivity gains are expected from a dedicated free-flowing freight route to the port and tourism opportunities with new and improved access to the Bunbury-Geographe sub-region, Margaret River region and the wider South West.

Port Access Road

The Port Access Road, also known as Willinge Drive, provides access from stage one of the Bunbury Outer Ring Road in the south, near the Moore Road timber precinct, to the Port of Bunbury.

The Port Access Road provides direct access to the port without the need for heavy haulage vehicles to travel through heavily populated sections of the Bunbury Metropolitan Area. This alleviates traffic congestion in the Bunbury Metropolitan Area and makes freight delivery more efficient and economic.

Completion of the Bunbury Outer Ring Road will remove most port-related heavy haulage vehicles from Forrest Highway in the vicinity of the suburbs of Treendale, Millbridge, Eaton and Vittoria Heights and direct them to the Port Access Road.

Coalfields Highway

The Coalfields Highway runs east from the South Western Highway at Roelands, through Collie and intersects with the Albany Highway at West Arthur in the Wheatbelt region. The highway acts as the major road freight, tourist and local route between Collie and the coast and has been upgraded over the years to improve safety and efficiency.

20.2 Rail

As part of the *Western Australian Regional Freight Transport Network Plan* (2013) the Department of Transport reviewed the rail services in the South West, in particular the infrastructure within the Bunbury-Geographe sub-region.

The South West rail network includes the South West Main rail line from Kwinana to the Port of Bunbury. The South West Main is part of the National Land Transport Network, servicing a number of other lines, extending east to Collie from Brunswick Junction and west to the Bunbury passenger terminal.

Freight volumes on the South West Main are already substantial as the line currently carries the majority of the region's bulk freight movements. The track in its current configuration is nearing capacity, particularly in the southern sections from Brunswick Junction to discharge points within the port.

The *Western Australian Regional Freight Transport Network Plan and draft South West Supply Chain Strategy* identify a number of upgrades that will be required to keep the line functional and operational into the future. In the medium-term, the South West Main will require progressive upgrading to increase the overall train-carrying capacity. Longer-term upgrades include lengthening sidings to accommodate longer trains particularly as most crossing loops and sidings south of Pinjarra are less than 700 metres.

If industrial development occurs in both the Collie Basin and the Shotts Industrial Estate, the Brunswick to Collie rail corridor may be required as a freight route. The existing rail configuration is unlikely to be able to provide adequate capacity for this level of demand without major track-strengthening and capacity upgrades being undertaken, including section duplications.

20.3 Port of Bunbury

The Port of Bunbury is the major commercial deep-water port for the South West region. The port recorded a throughput of 16.7 million tonnes in 2018-19, comprised mainly of alumina exports (65 per cent).

Other port exports include woodchips (9 per cent), mineral sands (7 per cent), spodumene (5 per cent), silica sands (2 per cent), grain (2 per cent) and copper concentrate (1 per cent).

Imports through the port include caustic soda, mineral sands, fertilisers, coal, oil/petroleum and timber products.

The *Western Australian Regional Freight Transport Network Plan 2013* identified that port throughput could grow to more than 30 million tonnes per annum by 2030 with the bulk of these commodities being transported by rail. A significant number of products are still transported by road, including mineral sands, grain, spodumene, woodchips/logs, and silica sands.

The port's operations are currently split between the Outer Harbour and the Inner Harbour. Berths 1 and 2 in the Outer Harbour are used for general purpose, cruise ship, tugboat moorings and methanol facilities. The Outer Harbour functions are winding down and the future of the area will depend on the long-term planning the Southern Ports Authority has for the area.

There are currently five berths within the Inner Harbour and these are used for: woodchips and grain, alumina and caustic soda, general purpose uses and bulk materials.

Planning for the port has been ongoing with the *Bunbury Port Inner Harbour Structure Plan* released in September 2009. The Southern Ports Authority commenced preparation of a master plan for the port in 2020.

The Westport Taskforce was established by the Minister for Transport in September 2017 to develop a Strategy to guide the Government on the long-term development and growth of the Inner Harbour at Fremantle; the Outer Harbour at Kwinana; the required rail and road networks; and the potential for the Port of Bunbury to contribute to growing trade needs. The Strategy considered the freight, trade and logistics requirements for Perth and the South West for the next 50 to100 years.

The Westport Taskforce findings concluded that the Port of Bunbury was unlikely to compare favourably with Fremantle and Kwinana in terms of handling container imports destined for consumers in the Perth metropolitan area due to costs of additional infrastructure and higher operational costs.

However, the findings did include options to facilitate the growth of the South West's container trade with a view to establishing a niche container operation at the Port of Bunbury. This will require more detailed supply chain investigation to confirm the most suitable location for a future Inter-modal Terminal (IMT) and to better understand requirements for integrating an IMT into the South West rail and any other expansion options contemplated by the Southern Ports Authority.

20.4 Airport

Bunbury Airport is the local airport servicing the City of Bunbury and the surrounding local government areas. The Bunbury Airport is located eight kilometres south-east of the Bunbury CBD and is used largely as a facility for general aviation, pilot training and emergency services.

The airport has a single sealed runway. Expansion of the airport is constrained to the north-east by the South Western Highway and to the south-west by Manea Park and the Bunbury Regional Prison.

Bunbury Airport currently averages 13,000 aircraft movements per annum and houses a permanent rescue helicopter base operated by DFES, accommodates seasonal water bombers operated by the Parks and Wildlife Services section of DBCA and has significant visitation by the Royal Flying Doctor Service.

The City of Bunbury, who own and operate the airport, adopted the *Bunbury Geographe Airport Master Plan 2020-2040* in July 2020. The master plan aims to further establish the role of Bunbury Airport and guide its planning, development and operation to 2040.

20.5 Public transport

Local bus service

The Bunbury Metropolitan Area is serviced by public buses as part of the Public Transport Authority Trans-Regional services that are provided in major regional centres throughout the State. The bus station in the Bunbury CBD is owned by the City of Bunbury and leased to the Public Transport Authority (PTA).

The Bunbury Metropolitan Area service is contracted to Swan Transit South West and operates as TransBunbury, providing a range of services from Australind in the north through to Dalyellup in the south. Any expansion of these services would require a demonstrated need and consideration by both PTA and TransBunbury.

Inter-regional coach service

There are two operators for interregional coach services. Both South West Coach Lines and Transwa Road Coaches service the South West and connect the Bunbury-Geographe sub-region directly with Perth.

Passenger rail - The Australind

The Australind, operated by Transwa, provides a service between the Perth Railway Station and the Bunbury station located in Wollaston, a suburb south-east of Bunbury CBD.

The Australind provides a twice-daily service between Bunbury and Perth, stopping at 10 hinterland towns. A one-way trip takes approximately two hours 30 minutes.

The State Government announced an upgrade to the train infrastructure with new trains and rolling stock to be built and in service by 2022.

Future Perth-Bunbury fast rail service

The PTA has been considering a fast train service between Perth and Bunbury for a number of years. In 2020 funding was secured from the Australian and State Governments for the PTA to undertake further investigation, including the development of a strategic business case for a fast rail service, to more fully assess key problems, potential opportunities and benefits and costs to improve regional transport accessibility south of Perth.

The areas of focus for the next phase of work include:

- Consideration of the role of a potential fast rail between Perth and the South West region of WA, optimal alignment outcomes, and its relationship to the existing Australind service and alignment. This will include potential public transport connections to the fast rail service and/or further route expansion beyond Bunbury, taking into account the balance between potential train speed, route length and stopping locations.
- Consideration of population and economic growth conditions, and analysis of related demand forecasts, to understand potential use of any new fast rail infrastructure and services.
- Potential timing for investment and delivery, acknowledging that based on current population densities and travel patterns the introduction of fast rail in Western Australia is considered to be a longer-term initiative.

Taxi services

The Bunbury Metropolitan Area has a local taxi service. The service has expanded, and a number of new operators have entered the market.

Cycling

Various studies have identified major benefits in areas with high levels of cycling, including economic, environmental and social benefits. Increased cycling has significant potential health benefits for the sub-region and could assist in creating more vibrant and welcoming communities.

The Department of Transport's Bunbury-Wellington 2050 Cycling Strategy indicates the key to increasing cycling is providing infrastructure which is not only safe and convenient, but also competitive with other modes of transport. To achieve this, cycling needs to be prioritised and given due consideration in any land use and transport planning.

Previous network planning was undertaken by SWDC in the Greater Bunbury Regional Bicycle Master Plan 2012, which provided guidance for the cycle network and listed key projects to facilitate the expansion of the network, particularly identifying key gaps and deficiencies.

As part of the construction of the BORR, the principal shared path will no longer connect to the local cycle network within the Bunbury Metropolitan Area. An east-west cycle linkage from the BORR to the Bunbury Metropolitan Area may need to be considered in the future.



Image courtesy City of Bunbury

21. Utilities and services

21.1 Water supply

The provision of a water supply for residential, agricultural, mining and industrial uses, as well as water quality management of drinking water resources, will be a key challenge for future planning in the sub-region. The future demand for potable water in the sub-region is expected to increase between 45 and 85 per cent in the 30-year period to 2050 for the wider South West region, based on the Strategy's baseline and growth trajectories respectively.

Aqwest currently provides potable water to the northern part of Dalyellup and Picton Industrial Area (approximately 17,000 customers), while the Water Corporation provides potable water to the settlements in the remainder of the sub-region. The Yarragadee Aquifer, which stretches from Bunbury to Nannup, is the primary water source for most towns in the sub-region. DWER has reserved water in the Yarragadee and Leederville aquifers for future public water supply. Outside the settlements, residential properties either rely on rainwater tanks or groundwater bores for their potable water.

DWER has indicated that future water supply source options for the sub-region include:

- establishing new or expanding existing ground/surface water sources, including accessing water reserved for future public water supply
- desalination of seawater or saline ground/surface water
- wastewater recycling for potable or non potable supply
- stormwater harvesting for potable or non-potable supply
- combination of alternative sources to meet fit-for-purpose demands.

DWER has worked with the water service providers to assess their projected demands against water resource availability. Improved water efficiency is a crucial part of the future, with a residential water use target of 100 kilolitres per person per year by 2030. Existing entitlements and water currently reserved in the Bunbury Groundwater Area meets projected demand to 2060 for existing schemes based on WA Tomorrow forecasts, if water efficiency targets are met. However, the water demand for existing schemes and new development areas to meet a population target of 200,000 is projected to exceed current licensed entitlements and water reserved for public water supply. Alternative water sources will need to be investigated to meet long-term water demands in line with the population targets.

21.2 Non-potable water

Figure 16 shows that agriculture uses the greatest amount of water in the sub-region. Agriculture accounts for over half the water used in the region (62 per cent), compared to Western Australia as a whole where agriculture is about one third of the total water use. Agriculture accesses groundwater and surface water as a self-supply source and surface water is also provided by Harvey Water and Preston Valley as irrigation co-operatives.

Harvey Water provides water from storages from the Waroona, Drakesbrook, Logue Brook, Harvey and Wellington Dams, as well as the Wokalup pipe-head. This water is either piped or released to agricultural areas from just south of Waroona in the north to Dardanup in the south, using gravity pressure through 495 kilometres of closed pipes and 256 kilometres of open channels. The Preston Valley Irrigation Co-operative provides surface water from the Glen Mervyn Dam to customers between Mumballup and Argyle, either side of Donnybrook, via seasonal releases.

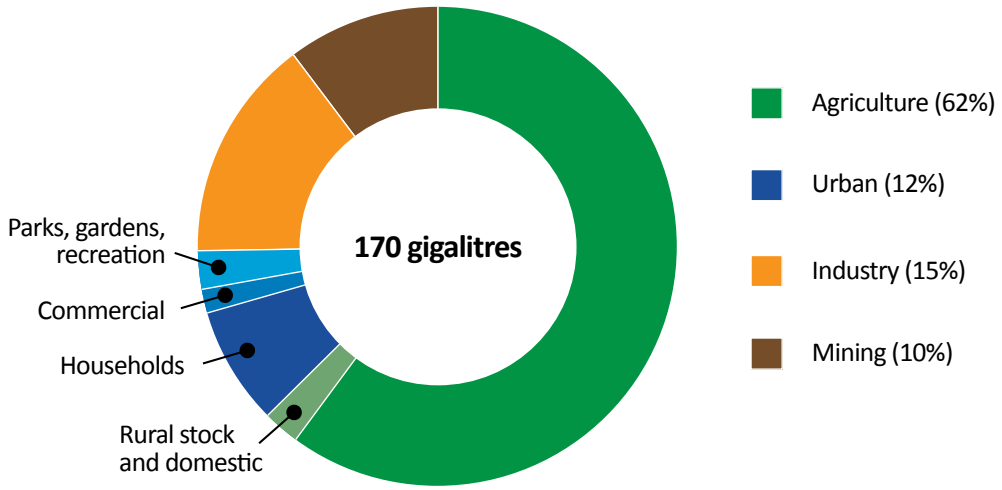
Current water abstraction for coal mining is largely for dewatering to ensure mines can operate safely and efficiently. Dewatering provides a large short-term supply of water that is generally of a high quality and is predominantly used for power generation in Collie.

About half of the water used in urban areas and localities is self-supplied and half is from a scheme. There is high ratio of self-supplied non-potable urban water use due to the availability of fresh, shallow groundwater from the superficial and Leederville aquifers that has to date been relatively cheap to access for both domestic use and local government use.

Impacts on existing surface and groundwater resources from a drying climate and current practices along with increasing demand, is resulting in the need to investigate alternative water sources and delivery infrastructure for industrial demands, including agriculture. Increasing urban growth, climate change and reduced access to ground and surface water are also driving the need for a long-term strategy to supply water for green space irrigation to existing and future proposed urban communities.

The first option is always to promote water use efficiency and encourage users to reduce their water use. The State, in association with water utilities and industries, has developed an extensive range of Waterwise programs to deliver water use efficiency and build better communities. These programs provide advice and guidelines for schools, golf courses, councils, sports grounds, aquatic centres, garden bores, urban greening schemes and urban canopy schemes in high risk neighbourhoods with heat sinks. Without intervention the problem of both potable and non-potable water demand exceeding supply will continue to grow. This will result in reduced access to safe and reliable drinking water, stifling of economic development, and a decreased ability to create liveable communities with certainty of supply for public open space, schools and community recreation facilities. Success will be dependent on early planning and scalable solutions and a collaborative approach to implementation.

Figure 16 – Water use in Bunbury-Geographe sub-region





21.3 Wastewater

The Water Corporation provides and operates reticulated mains sewer networks for the following settlements (see Map 11):

- Bunbury Metropolitan Area
- Capel
- Donnybrook
- Boyanup
- Dardanup
- Burekup
- Collie
- Brunswick Junction
- Harvey
- Binningup.

The *Government Sewerage Policy* (September 2019) outlines the State's policy position for unsewered areas. The policy states:

> *"It is acknowledged that on-site sewage disposal technologies have advanced considerably in recent decades, however there are still significant risks associated with their use. The installation, operation and on-going maintenance requirements for advanced on-site systems are more involved than for conventional septic systems... On-site sewage systems servicing individual lots are therefore not considered an appropriate alternative to reticulated sewerage for most subdivision and development. In some instances however, they are an acceptable method of servicing, particularly for low density urban and industrial development outside public drinking water source areas and sewage sensitive areas, where reticulated sewerage is not feasible."*

The minimum requirements for on-site sewerage disposal are detailed in the *Government Sewerage Policy.*

21.4 Electricity

The sub-region is supplied with energy from the Western Power South West Interconnected System (SWIS), which is an interconnected network emanating from Western Australia's major base load power generators.

There are three coal-fired powered power stations near Collie that provide most of the State's electricity. Muja Power Station has a capacity of 854 MW of electricity. Two of the four operating units at Muja Power Station are to be retired in October 2022, removing 400 MW of capacity. Collie Power Station has a capacity of 300 MW. Bluewaters Power Station has a capacity of 416 MW, providing 15 per cent of the State's electricity supply.

The contribution from renewable energy resources, in particular solar and wind, into SWIS has been significant and accounts for approximately 16 per cent of supply. While this has opened considerable opportunities, it has also provided challenges to the energy industry, particularly with respect to power security and reliability.

The future role of renewable resources in the energy sector is expected to continue to grow in response to improvements in technology and the associated lowering of costs. To assist in identifying the whole range of energy options the State Government is undertaking a 'Whole of System Plan' to establish a structured and coordinated approach to the planning of the power system for the South West.

21.5 Gas

The Dampier to Bunbury Natural Gas Pipeline runs underground north-south through the Shire of Harvey ending immediately north of Clifton Road in Brunswick, just east of Forrest Highway. The pipeline services the ATCO high pressure gas pipeline and also the Worsley refinery (see Map 11).

The ATCO underground pipelines service Kemerton Strategic Industrial Area, Harvey townsite, Brunswick Junction townsite, Australind, Eaton, Millbridge, the City of Bunbury, Picton, Dalyellup, Boyanup, Iluka mine site, the Capel townsite and further south to Busselton.

21.6 Telecommunications

A range of telecommunications services exist within the sub-region, depending on location and accessibility to settlements. The more remote, rural parts of the sub-region have generally more limited telecommunications services. Mobile services are generally available throughout the sub-region, however there are gaps in coverage in some rural areas.

The State Government's Regional Mobile Telecommunications Project resulted in improved services in the sub-region through new and upgraded infrastructure. The National Broadband Network has enabled improved access to information and services and provides opportunities for the establishment of new technology-based businesses.

21.7 Waste management

Local governments tend to have their own waste transfer station and landfill site:

- Shire of Capel - Capel Waste Transfer Station
- Shire of Dardanup - Dardanup Waste Transfer Station and Recycling Centre; Banksia Road Organic Processing Facility (not a public facility)
- Shire of Harvey - Stanley Road Waste Management Facility; Richardson Road Refuse Centre
- Shire of Collie - Collie Waste Transfer Station.

Bunbury-Harvey Regional Council (BHRC) is a statutory local government authority established in 1990 by the City of Bunbury and the Shire of Harvey. The primary purpose of BHRC is waste recovery and disposal. BHRC is not responsible for waste collection services – this is the responsibility of individual councils. The BHRC has two main areas of operations — the Banksia Road Organics Processing Facility and the Stanley Road Waste Management Facility. BHRC owns and manages the Stanley Road Waste Management Facility, which encompasses a waste transfer station and a Class II landfill site. The Banksia Road Organics Processing Facility is managed by BHRC on behalf of the Wellington Regional Group of Councils.

In addition, Cleanaway operates a solid waste management facility in Crooked Brook. The premises are not open to the public and are licensed by DWER with the general permissions being for:

- Category 61 – liquid waste facility
- Category 64 – putrescible landfill site.

The facility is able to accept up to 303,000 tonnes per annum of Class III solid waste and 353,000 tonnes per annum of liquid waste.

The South West Regional Waste Group (SWRWG) is an informal collaboration between local governments in the South West region that, among other initiatives, is seeking to identify suitable alternative waste management strategies/ technologies that can be deployed on a regional scale.

The SWRWG is seeking to engage with prospective technology/service providers for purposes of identifying and forming a broad understanding of:

- the most suitable waste treatment technology alternative to landfill that is commercially viable for the SWRWG and strategically aligned with the group's objectives
- the most suitable legal/ownership structure and/or commercial arrangement between the SWRWG and a potential supplier/ operator of the preferred solution.

21.8 Education

The sub-region is well served by educational institutions, in particular those located in the Bunbury educational precinct. The precinct comprises of Edith Cowan University – South West (ECU), the South West Regional College of TAFE, Manea Senior College, and the Bunbury Health Campus.

ECU offers a comprehensive range of tertiary courses in arts, business, engineering, nursing, teacher education and social work. There is an emphasis on local, mature-age students often studying part-time.

For tertiary vocational training, the South West Regional College of TAFE offers a wide range of industry courses with flexible study options.

Manea Senior College is a specialist Year 11 and 12 senior college and is the largest provider of Year 11 and 12 courses in the sub-region with approximately 650 students.

Other educational institutions in the sub-region include:

- The WA College of Agriculture Harvey, based at Wokalup, which offers Year 10, 11 and 12 courses. The college operates a substantial farm with several different agricultural and horticultural elements.
- Bunbury Regional Community College, a specialist school that provides an alternative to mainstream high schools.
- College Row, a special needs school in the Bunbury Metropolitan Area catering for Kindergarten to Year 12.
- Public high schools
  - Australind Senior High School
  - Eaton Community College
  - Bunbury Senior High School
  - Newton Moore Senior High School
  - Dalyellup College
  - Collie Senior High School
  - Harvey Senior High School
  - Donnybrook District High School (Kindergarten-Year 10 across two campuses)
- Private high schools
  - Bunbury Catholic College (two campuses)
  - Bunbury Cathedral Grammar School
  - Bunbury Baptist College.
- Djidi Djidi, a primary school in the Bunbury Metropolitan Area that includes Noongar culture and language in the life of the school.
- Public primary and senior schools in other settlements in the sub-region.

21.9 Health

The major health facilities in the sub-region are based at the South West Regional Health Campus in the Bunbury Metropolitan Area. The Bunbury Regional Hospital and St John of God Private Hospital share some facilities. The health campus incorporates 24-hour emergency care with a wide range of support services including an acute psychiatric unit, coronary care unit, cancer centre, domiciliary care unit, geriatric assessment unit, hospice care unit, maintenance renal dialysis unit, obstetric services, paediatric services and a dental unit.

The South West Aboriginal Health Service is also based at the health campus and runs a mobile health clinic to regional areas.

There are district hospitals at Collie, Donnybrook and Harvey. The Collie Health Service provide a range of health services including an emergency department, a domiciliary care unit, geriatric assessment unit and obstetric services. As part of the Southern Inland Health Initiatives capital works program, Collie Health Service underwent redevelopment in 2017 to improve health care services in the South West region.

Donnybrook Hospital is a public hospital facility that provides a range of health services to those living in Donnybrook and the surrounding areas. Its services include emergency services, a domiciliary care unit, geriatric assessment unit and a nursing home care unit.

Harvey Health Service is a public hospital facility that provides a range of health services to those living in Harvey and the surrounding areas. Its services include emergency services, a domiciliary care unit, geriatric assessment unit and a nursing home care unit. As part of the Southern Inland Health Initiatives capital works program, Harvey Health Service underwent redevelopment in 2017 to improve health care services in the South West region.

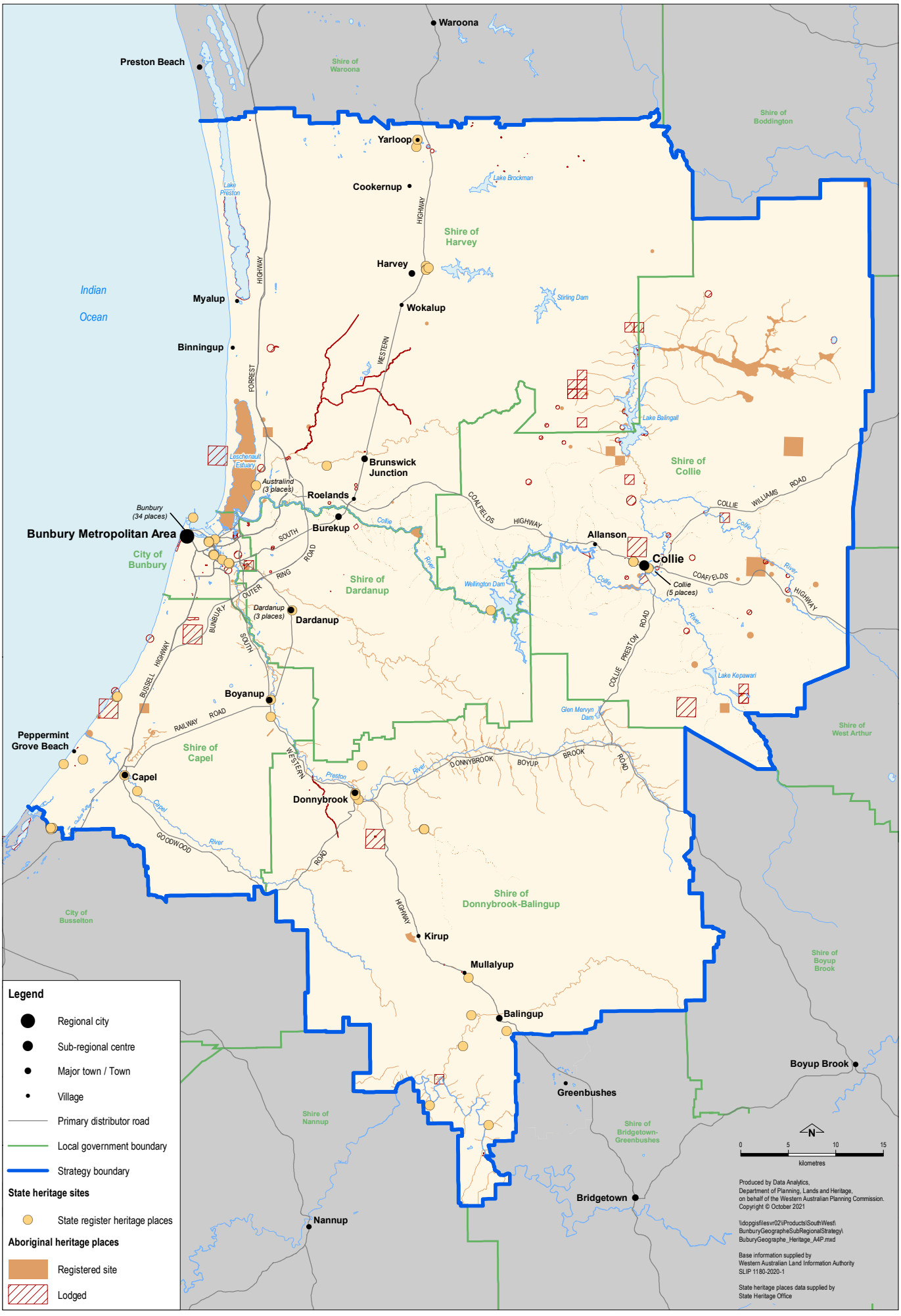
The demographics of the sub-region shows a significantly ageing population, presenting additional medical challenges and requirements for communities.



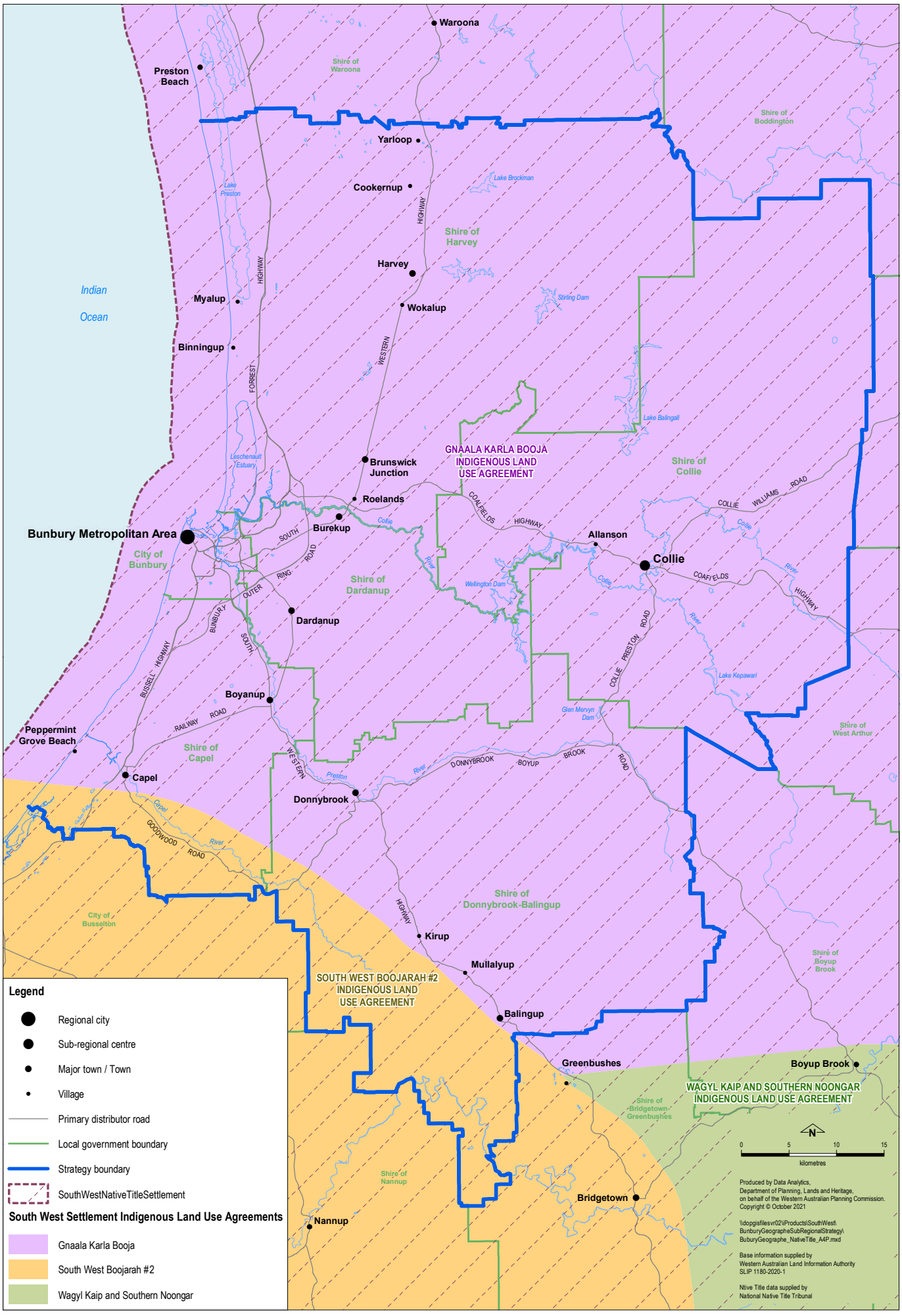
Image courtesy City of Bunbury



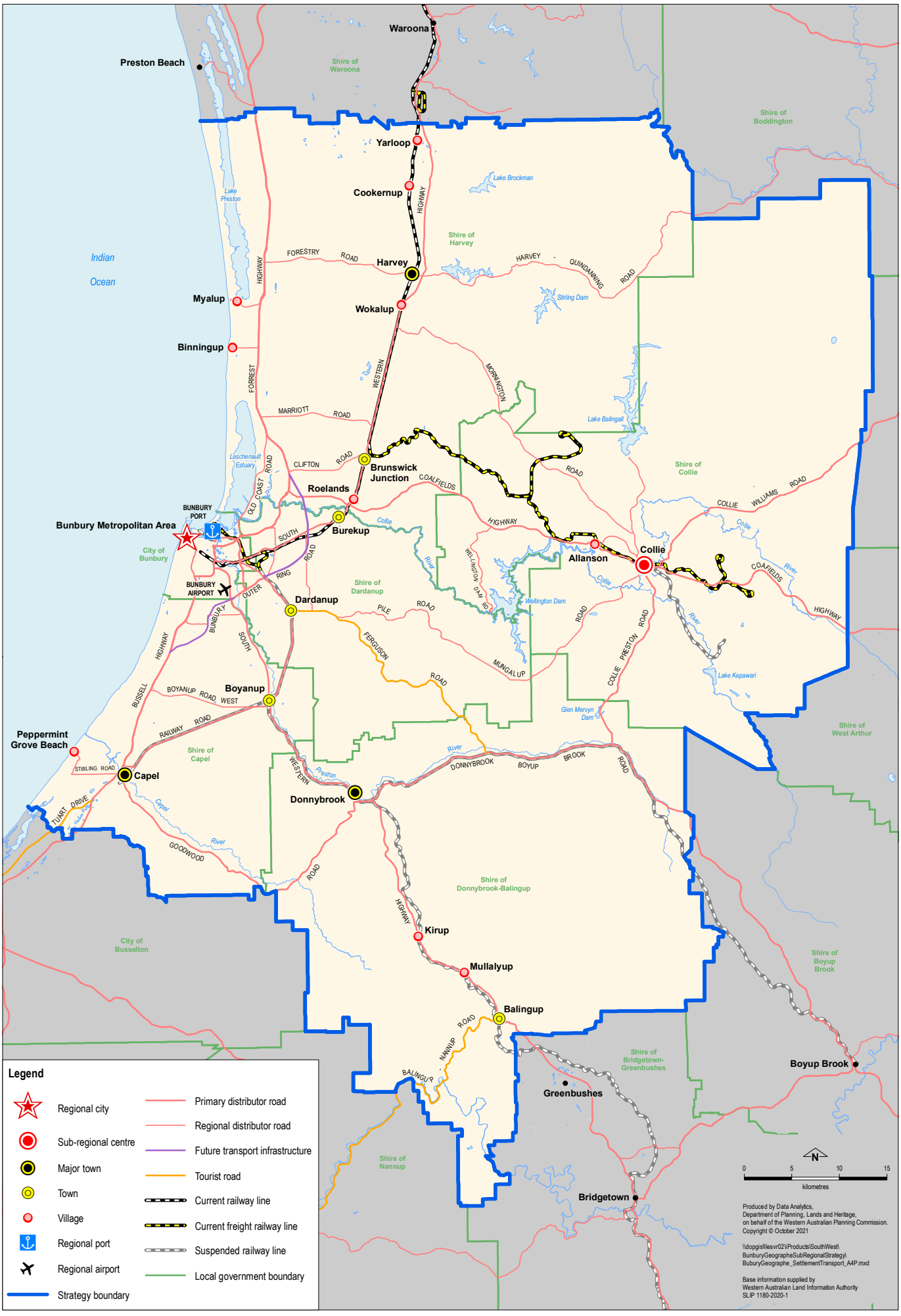
PROFILE MAPS



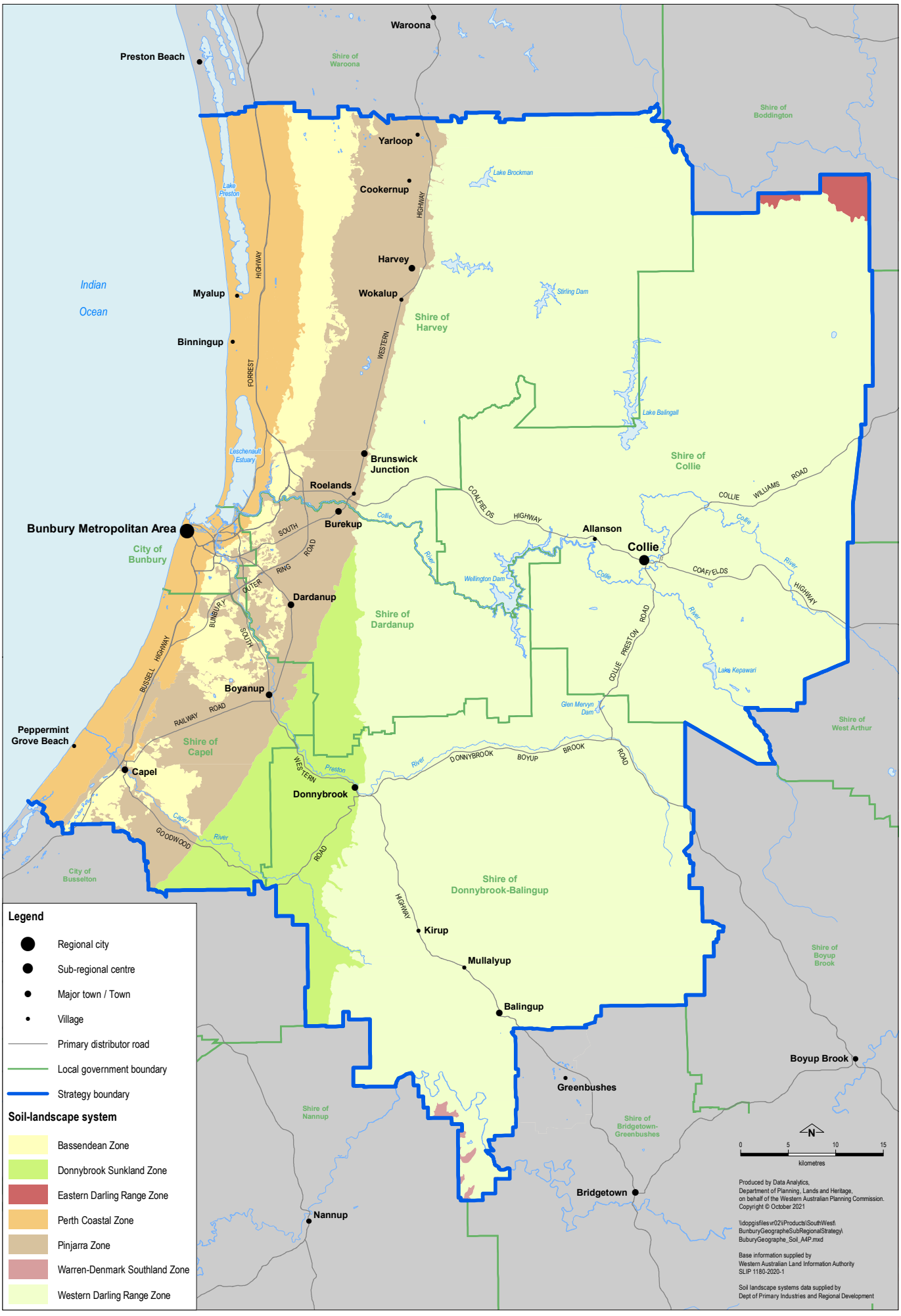
Map 1: Historic and Aboriginal Heritage



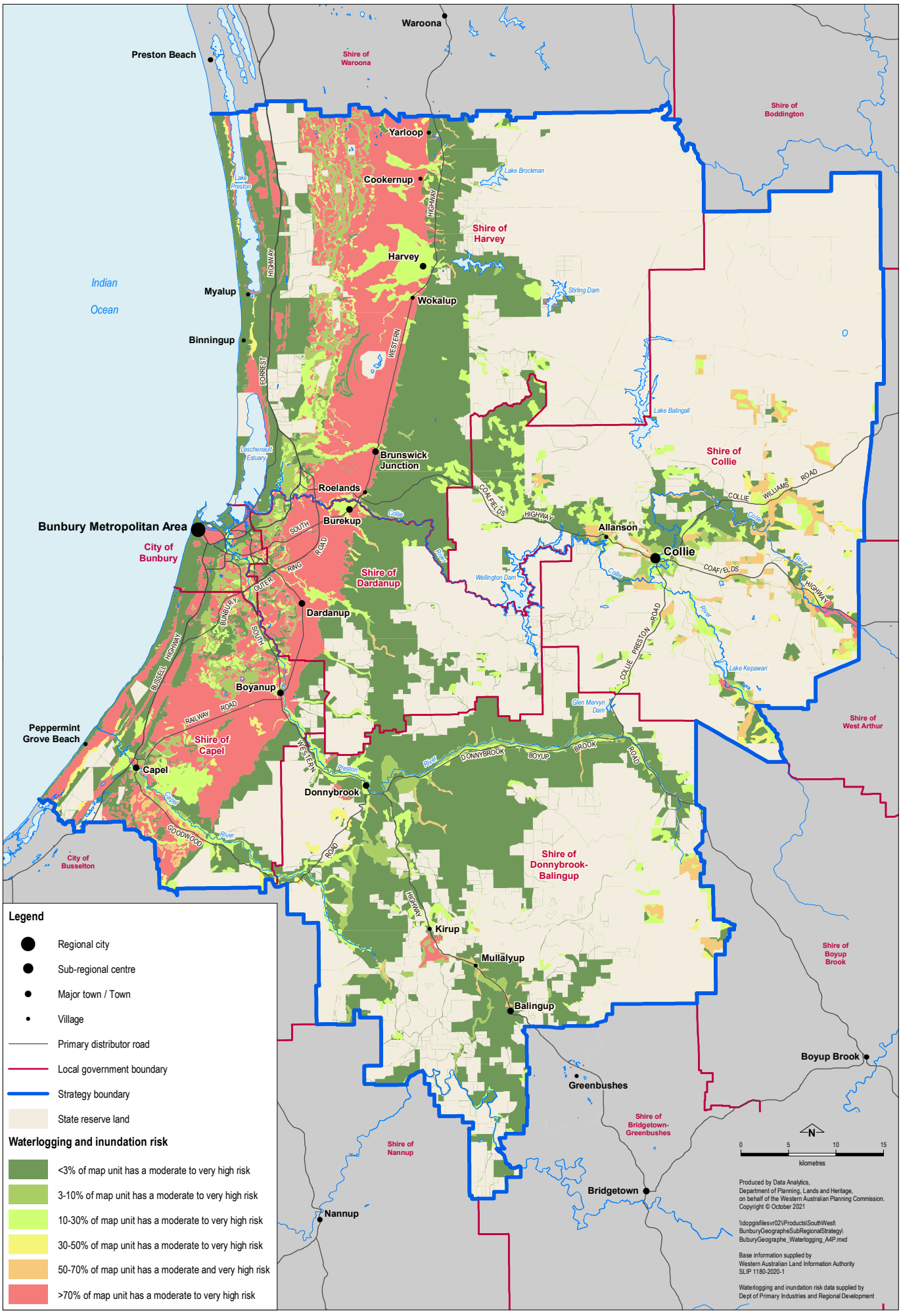
Map 2: Native Title Settlement Proposals



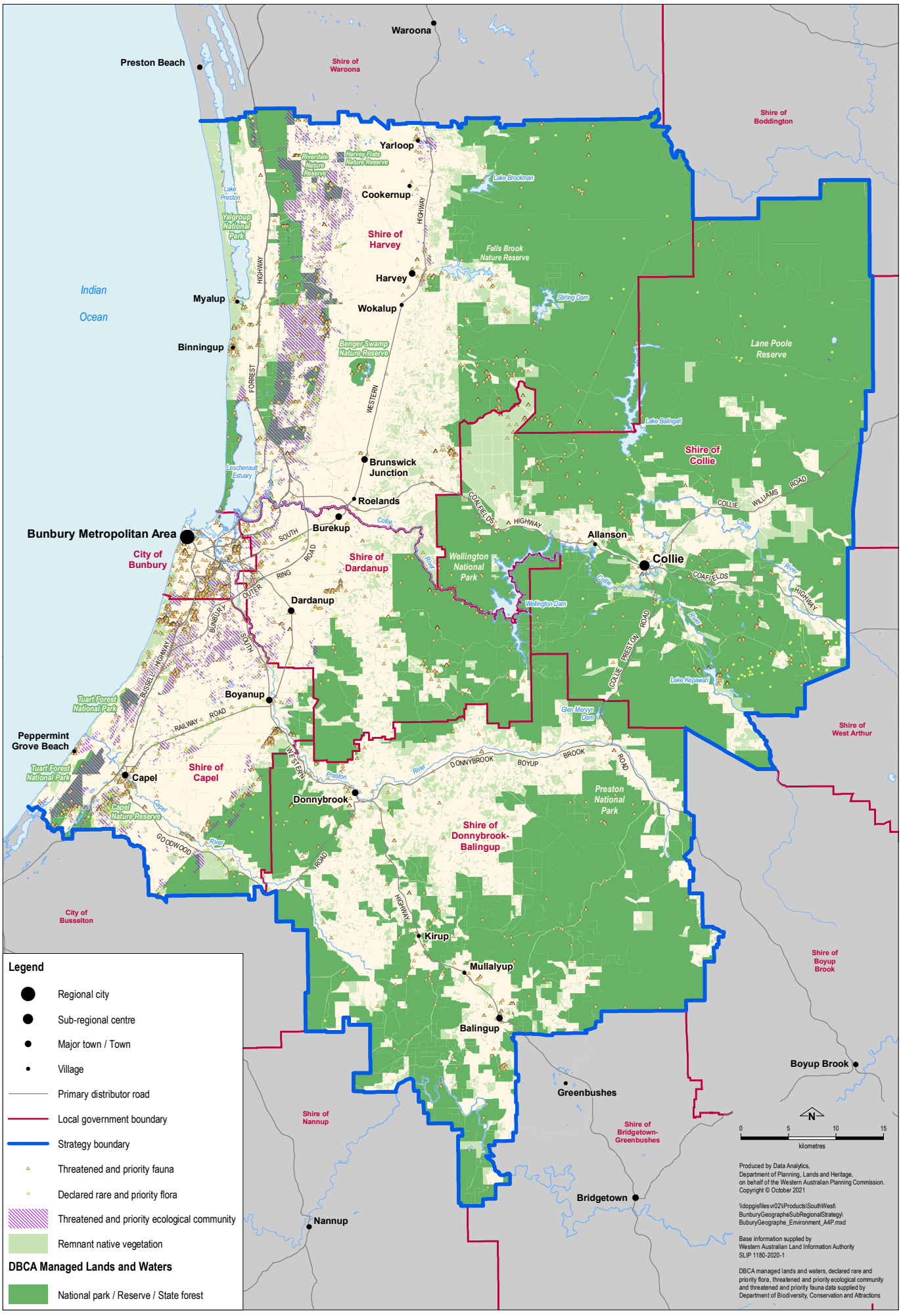
Map 3: Settlement and Transport



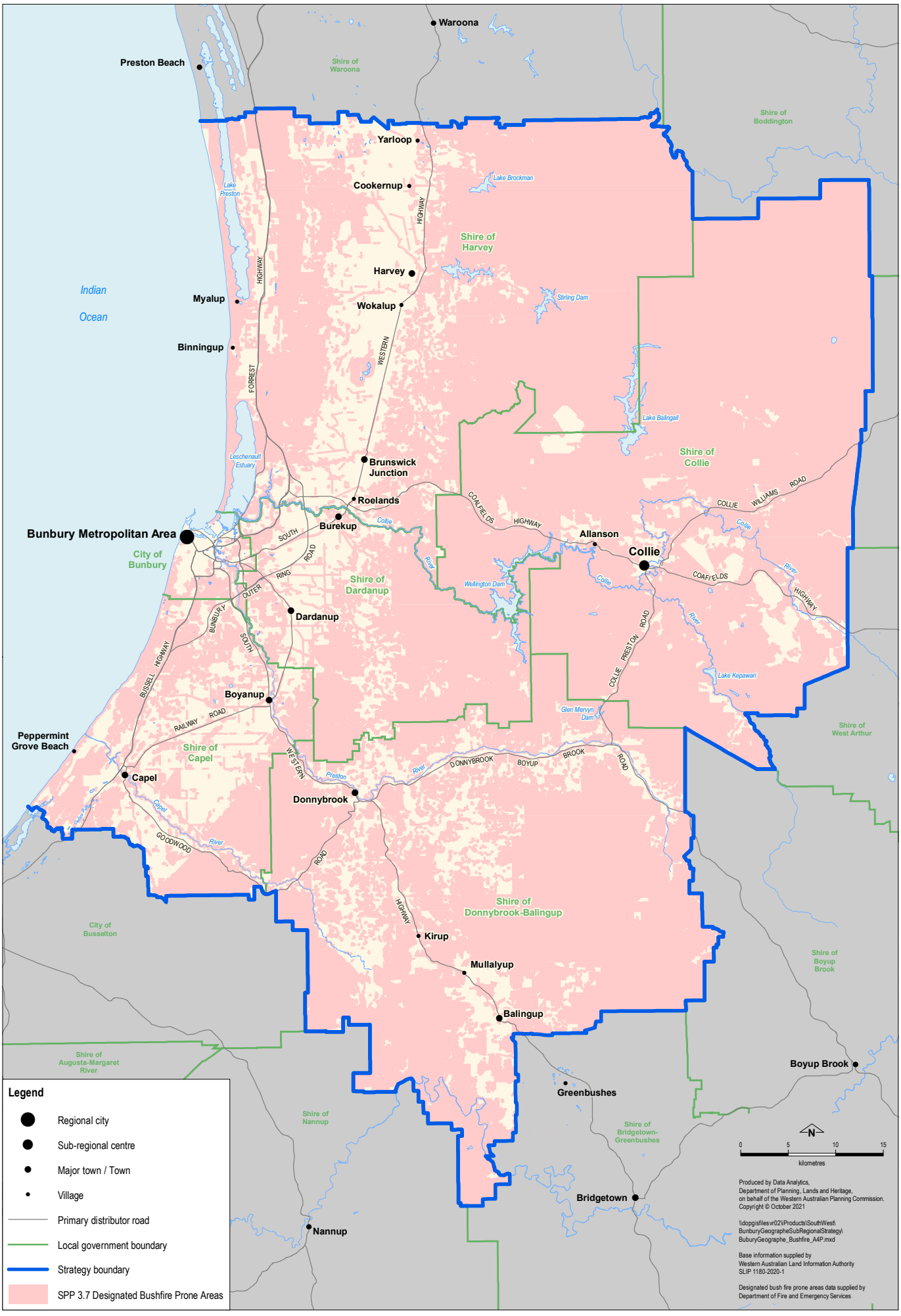
Map 4: Soil Landscape Systems



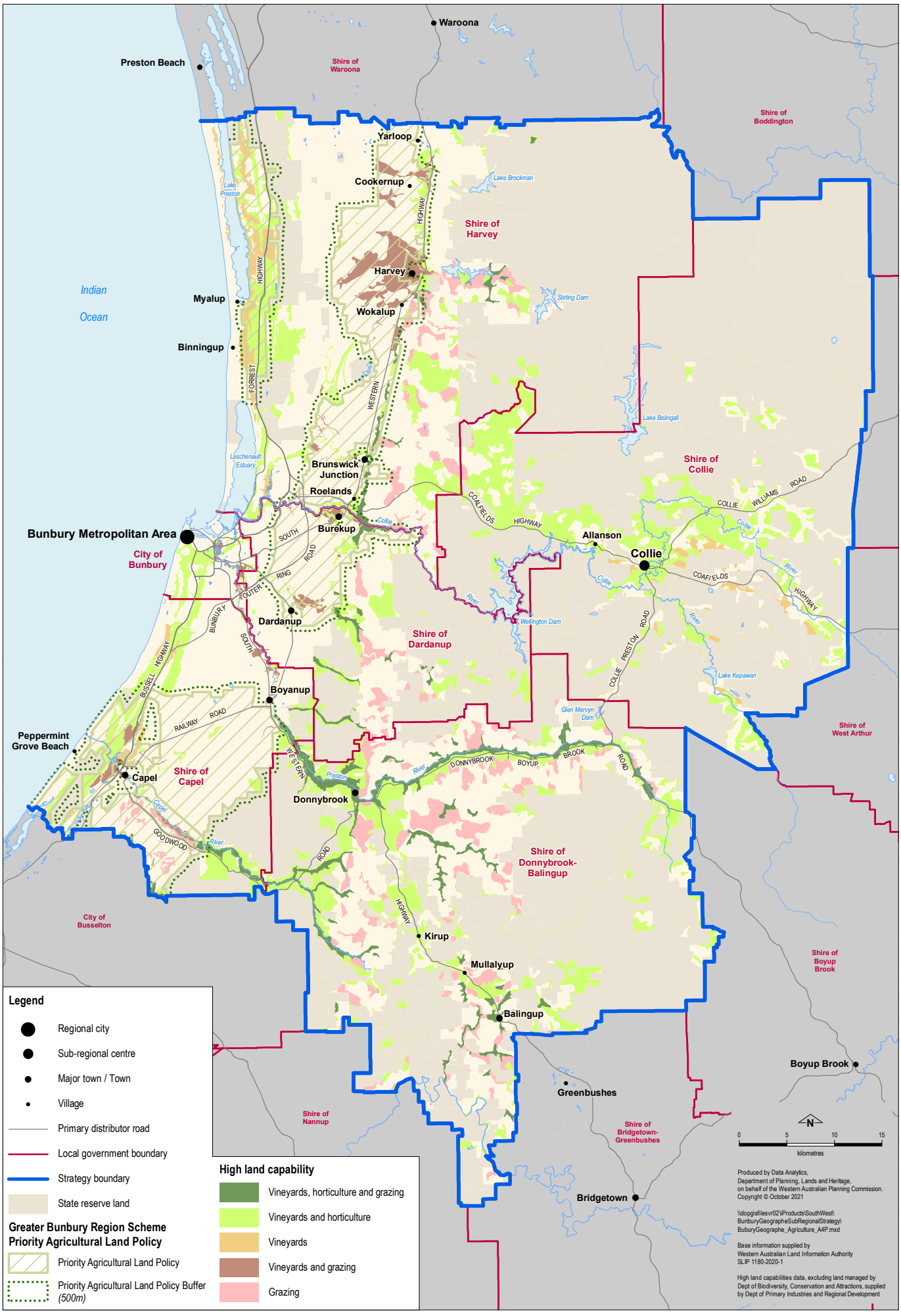
Map 5: Waterlogging and Inundation Risk



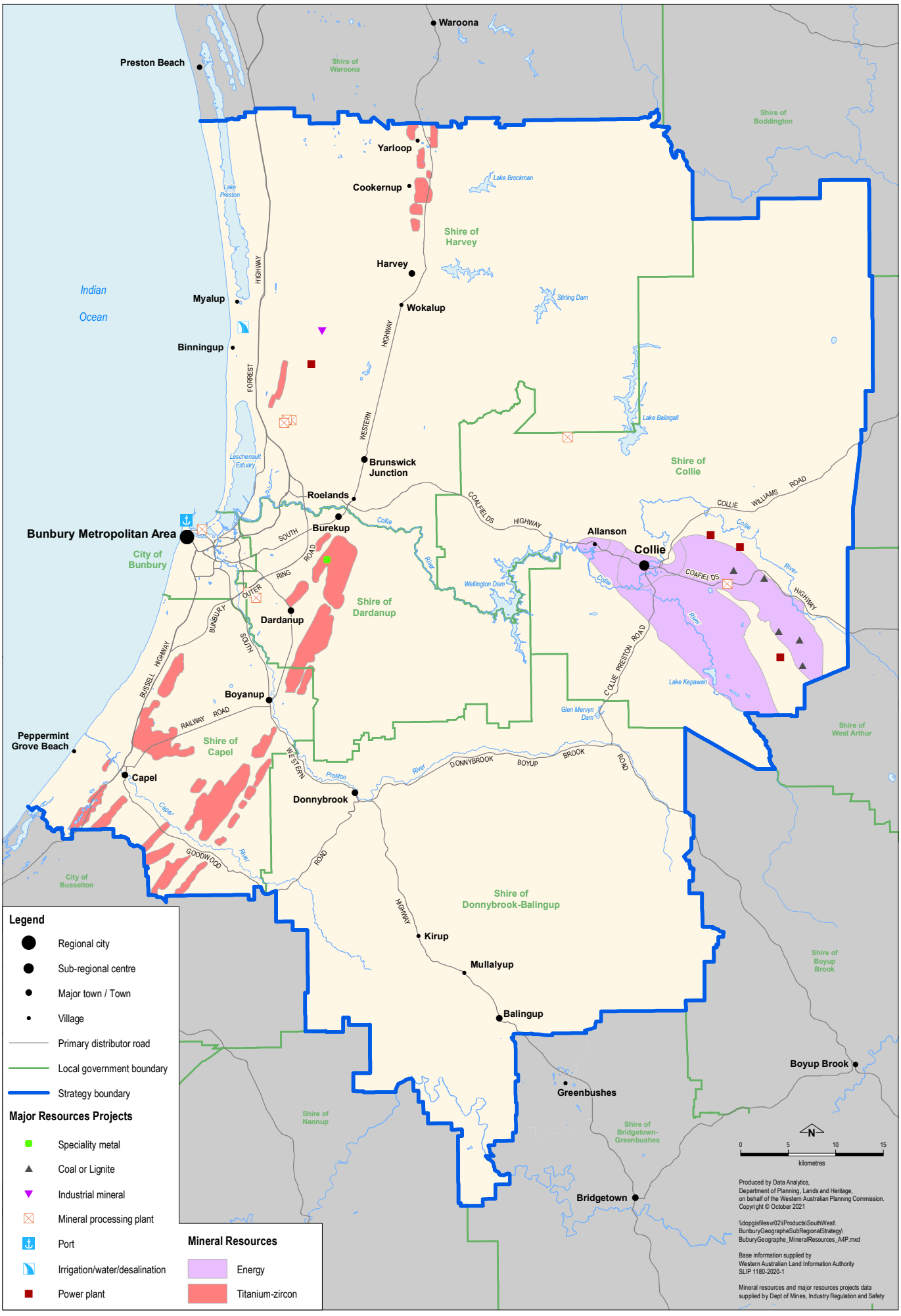
Map 6: Natural Environment



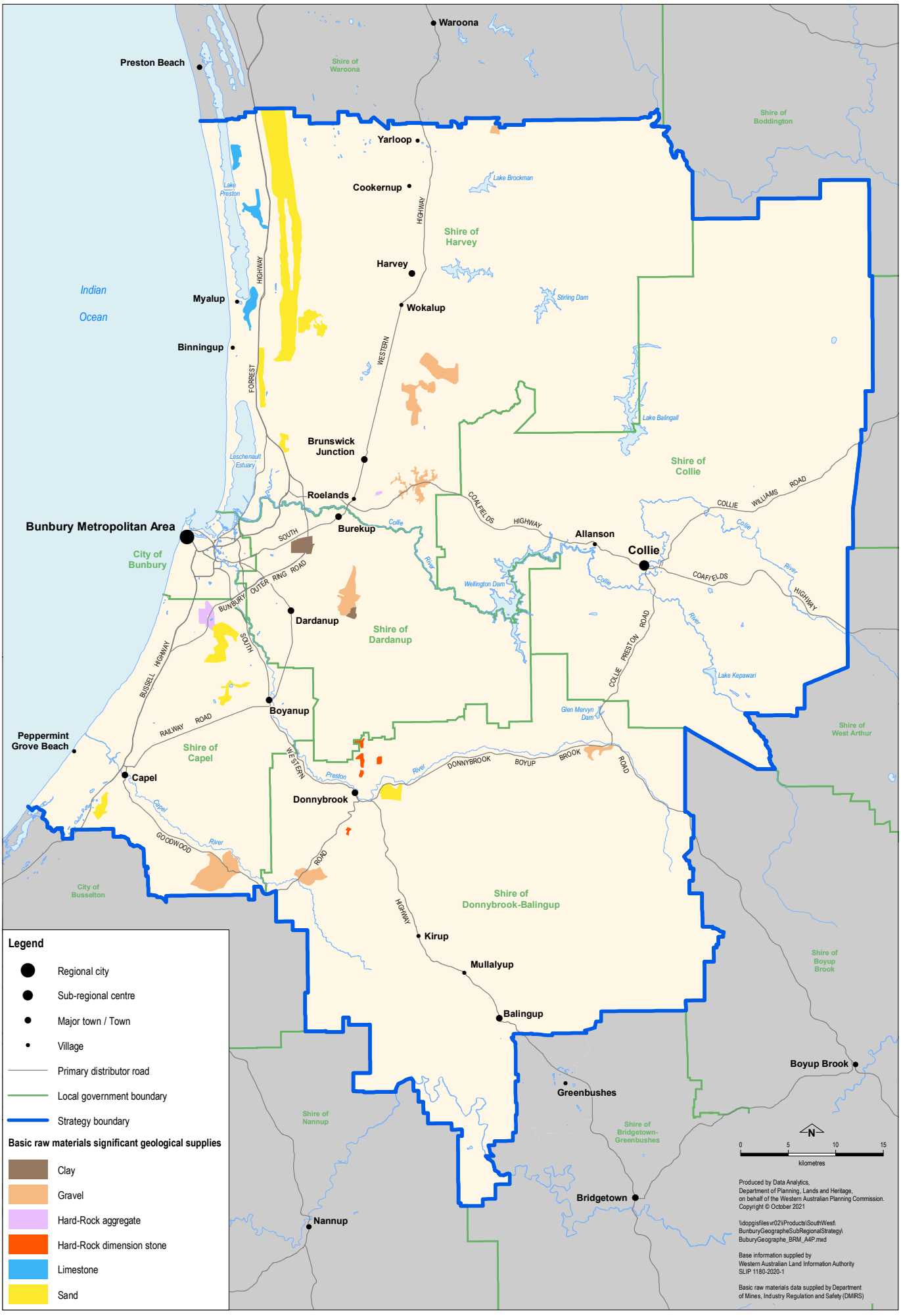
Map 7: Bushfire Prone Areas



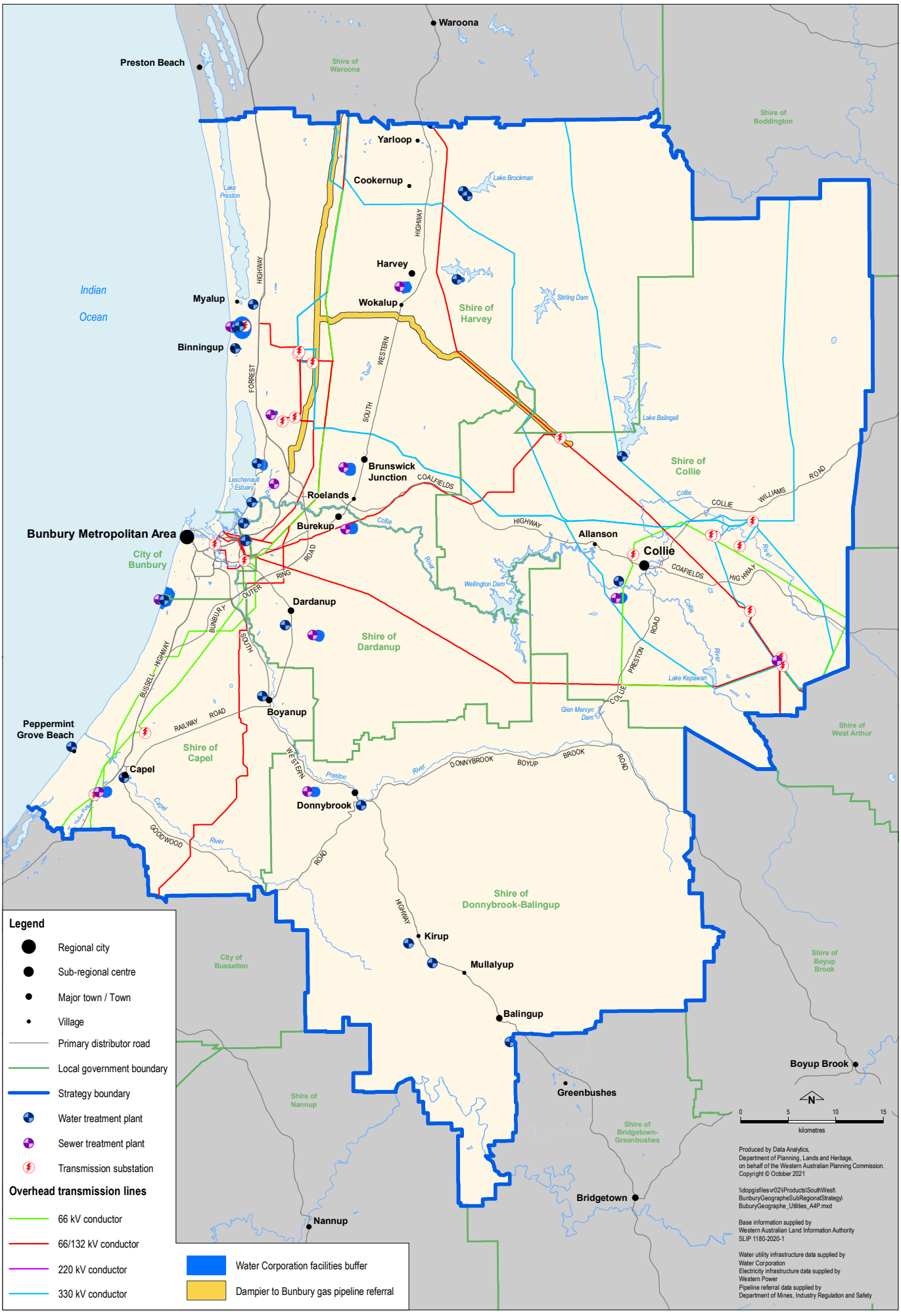
Map 8: Agriculture



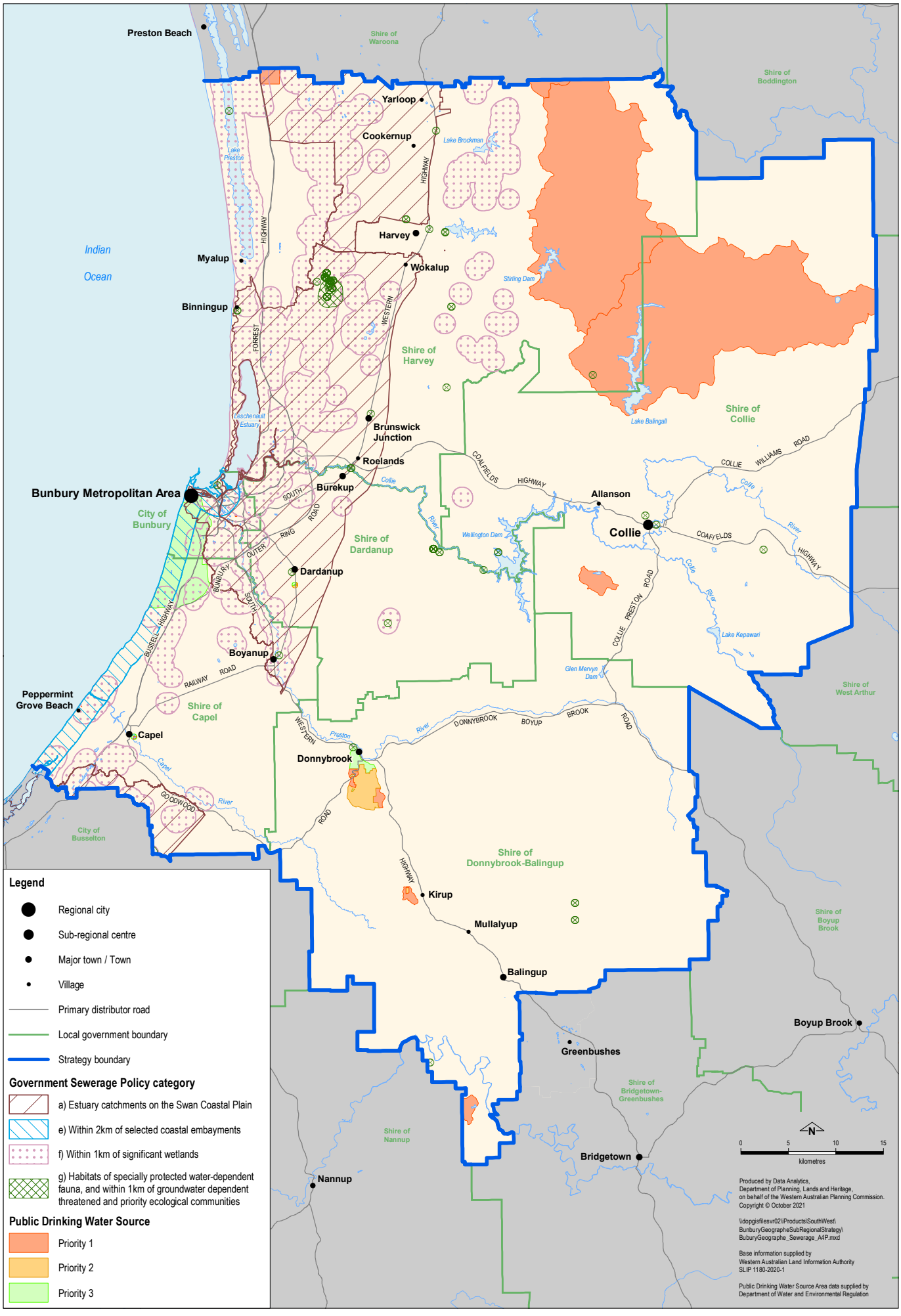
Map 9: Mineral Resources and Activity



Map 10: Basic Raw Materials



Map 11: Utility Infrastructure



Map 12: Sewerage and Public Drinking Water Sensitive Areas

Appendix 1 – Governance Structure

Western Australian Planning Commission

Chair: Western Australian Planning Commission (Chair of)

Members:

- Bunbury Development Committee (Chair of)
- Bunbury Development Committee (professional planner)
- City of Bunbury
- Shire of Capel
- Shire of Collie
- Shire of Dardanup
- Shire of Harvey
- Shire of Harvey
- Shire of Donnybrook-Balingup
- South West Development Commission
- Department of Water and Environmental Regulation
- Department of Jobs, Tourism, Science and Innovation
- Department of Transport
- Department of Planning, Lands and Heritage

Meetings:

20 May 2019	Bunbury	(City of Bunbury)
15 August 2019	Collie	(Shire of Collie)
26 September 2019	Australind	(Shire of Harvey)
21 November 2019	Bunbury	(Dolphin Discovery Centre)
22 April 2021	Eaton	(Shire of Dardanup)

Workshop: 3 February 2020 — Strategic workshop Bunbury (Dolphin Discovery Centre)

Steering Group – provides advice to the WAPC



Environment Working Group
Chair: Department of Water and Environmental Regulation

Economy Working Group
Chair: South West Development Commission

Transport Working Group
Chair: Department of Transport

Urban Settlement Working Group
Chair: Department of Planning, Lands and Heritage

Utilities and Services Working Group
Chair: Regional Development Australia

Working Groups – technical advice to Steering Group

Appendix 2 – Implementation Actions

No.	Strategic Direction	Implementation actions	By whom
1	Promote the Bunbury Metropolitan Area as Western Australia's second city, offering a range of employment and services as a genuine urban alternative to metropolitan Perth.	Ongoing advocacy	WAPC, local government
2	Provide for the growth of the sub-region's population to 200,000 by identifying sufficient residential and employment land to cater for this target population.	Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required	WAPC Local government
3	Recognise the broader aspiration for a population of 300,000 in the sub-region and respond to accelerated rates of growth by identifying additional residential and employment land, through regular monitoring and updating the Strategy as required.	Ongoing monitoring and review Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required	WAPC WAPC Local government
4	Adopt the settlement hierarchy for the Bunbury-Geographe sub-region in Section 5.	Nil	
5	Promote the growth of the Bunbury Metropolitan Area as a Regional City and the focus of major population and employment growth in the sub-region.	Coordinate with infrastructure and service providers Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required	WAPC, other State agencies WAPC Local government
6	Promote the growth of Collie as a Sub-regional Centre by facilitating planning proposals that will help to diversify the employment base and provide for a smooth economic transition in the future.	Coordinate with infrastructure and service providers Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required	WAPC, other State agencies WAPC Local government
7	Support the growth of Major Towns and Towns to reinforce their ongoing roles in the settlement network.	Coordinate with infrastructure and service providers Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required	WAPC, other State agencies WAPC Local government
8	Foster sustainable change in Villages to support resilient communities.	Coordinate with infrastructure and service providers Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required	WAPC, other State agencies WAPC Local government
9	Support proposals in Yarloop that assist in the redevelopment of the settlement following the 2016 Waroona-Yarloop Bushfire.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
10	Promote a consolidated urban form for the Bunbury Metropolitan Area through urban infill and increased residential densities around activity centres and other areas identified in a local planning strategy, while respecting heritage values and the distinctive character of each locality.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
11	Support greenfield development in locations that have already been zoned or committed for residential purposes, and that are contiguous to existing urban areas with ready access to existing infrastructure and services.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
12	Designate the East Treendale Urban Expansion Area. The extent of the East Treendale Urban Expansion Area is shown in Figure 7.	Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required Planning decision-making	WAPC Local government WAPC, local government

No.	Strategic Direction	Implementation actions	By whom
13	Designate the Clifton Road Rural Living Precinct. The extent of the Clifton Road Rural Living Precinct is shown in Figure 7.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
14	Designate the Treendale Road Rural Living Precinct. The extent of the Treendale Road Rural Living Precinct is shown in Figure 7.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
15	Provide for the designation of new rural living areas in locations contiguous with the following settlements: Collie, Donnybrook, Harvey, Balingup, Brunswick Junction, Dardanup, Allanson, Burekup, Cookernup, Kirup, Mullalyup, Roelands, Wokalup, Yarloop. Proposals for new rural living areas are to address the planning requirements for rural living precincts contained in State Planning Policy 2.5: Rural Planning. New rural living areas are to be designated in a local planning strategy and/or a local planning scheme.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
16	Require local governments to use local planning strategies to review stocks of residential and employment land to identify and respond to opportunities and constraints.	Update local planning frameworks as required	Local government
17	Support and encourage fit for purpose technology to deliver innovative waste management solutions which support the objectives and targets of the Waste Authority's Waste Avoidance and Resource Recovery Strategy 2030.	Ongoing advocacy Update local planning frameworks as required	WAPC, local government Local government
18	Support proponents of urban land developments to investigate alternative models of utility service delivery that provide a standard of service appropriate for the intended use, and that are capable of regulation by the Economic Regulatory Authority.	Planning decision-making	WAPC, local government
19	Encourage new developments, including those in infill areas, to be more waterwise and create climate resilient public open space, sporting grounds and recreational venues.	Planning decision-making	WAPC, local government
20	Adopt the activity centre hierarchy for the Greater Bunbury Region Scheme area in Section 6.	Nil	
21	Require local governments to undertake activity centre planning in accordance with *State Planning Policy 4.2: Activity Centres*.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
22	Ensure an adequate supply of industrial and commercial land across the sub-region to facilitate local employment.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
23	Protect strategic basic raw materials in the sub-region from the encroachment of incompatible land uses that would restrict future extraction.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
24	Undertake a study of the supply and demand of basic raw materials within the sub-region and the opportunities for alternative building construction techniques to reduce demand from the building and construction industries.	Undertake study	WAPC
25	Facilitate the expansion and diversification of the tourism industry, and promote the flexibility of rural zones to accommodate rural-based tourism uses.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
26	Support initiatives and investment in Kemerton Strategic Industrial Area and Shotts Strategic Industrial Area to make land project ready, and facilitate proposals in accordance with relevant planning instruments.	Coordinate with infrastructure and service providers Planning decision-making	WAPC, other State agencies WAPC, local government

No.	Strategic Direction	Implementation actions	By whom
27	Retain identified light and general industrial areas for industrial use and protect from the encroachment of sensitive land uses.	Planning decision-making	WAPC, local government
28	Protect priority agricultural land from incompatible land uses.	Planning decision-making	WAPC, local government
29	Support expansion of the Bunbury Port and the establishment of an intermodal freight hub facility in the Waterloo industrial area, or another suitable location that has direct access to inter-regional road and rail infrastructure.	Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required Planning decision-making	WAPC Local government WAPC, local government
30	Recognise potential impacts and opportunities arising from climate change and initiatives to reduce greenhouse gas emissions in planning instruments.	Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required	WAPC Local government
31	Require planning instruments to identify and protect, manage and enhance environmental assets such as forests, rivers, estuaries, coastlines and areas of remnant vegetation.	Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required Planning decision-making	WAPC Local government WAPC, local government
32	Focus the growth of settlements in locations where impacts on natural resources and the environment are minimised.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
33	Preserve and enhance ecological linkages, including a presumption against further fragmentation of these linkages, in planning instruments.	Ongoing advocacy Update local planning frameworks as required	WAPC, local government Local government
34	Require local governments to use local planning strategies to identify and protect significant visual landscapes.	Update local planning frameworks as required	Local government
35	Adopt a presumption against planning proposals within areas identified to be affected by coastal hazards and flooding.	Planning decision-making	WAPC, local government
36	Support intensification of land use only where bushfire risk can be understood to be low and/or capable of being appropriately mitigated without adversely impacting biodiversity conservation.	Planning decision-making	WAPC, local government
37	Support initiatives to connect and link the Bunbury Metropolitan Area to the hinterland settlements to create an integrated network, including public transport and regional bike network connection.	Ongoing advocacy Update local planning frameworks as required	WAPC, local government Local government
38	Retain the Australind railway reserve and collaborate with State Government agencies on the potential relocation of the terminus to central Bunbury.	Coordinate with infrastructure and service providers	WAPC, other State agencies
39	Collaborate with State Government agencies on planning for a potential fast passenger rail connecting Perth and the South West region, including securing a corridor in appropriate planning instruments.	Coordinate with infrastructure and service providers Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required	WAPC, other State agencies WAPC Local government
40	Support increasing the capacity of the existing freight rail network and future strategic freight rail alignments.	Coordinate with infrastructure and service providers	WAPC, other State agencies
41	Promote the sub-region's tourist routes in planning instruments.	Update local planning frameworks as required	Local government
42	Support improvements to the road and rail access to Bunbury Port and respond to any changes to the local and sub-regional transport network resulting from the expansion of the Port.	Coordinate with infrastructure and service providers	WAPC, other State agencies

No.	Strategic Direction	Implementation actions	By whom
43	Direct future urban growth to locations that are well serviced by existing infrastructure networks.	Coordinate with infrastructure and service providers Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required	WAPC, other State agencies WAPC Local government
44	Support the provision of sufficient utility, transport, health, education, and community infrastructure/ services to cater for a growing population and economy across the sub-region.	Coordinate with infrastructure and service providers	WAPC, other State agencies
45	Support the delivery of infrastructure projects and regulatory process improvements identified by the Industrial Lands Authority and Infrastructure WA.	Coordinate with infrastructure and service providers	WAPC, other State agencies
46	Support measures to improve water efficiency and re-use of grey water where appropriate.	Ongoing advocacy Planning decision-making	WAPC, local government WAPC, local government
47	Collaborate with infrastructure providers to audit current capacity of electricity, water and wastewater infrastructure to help quantify existing growth capacity and thresholds for upgrades, and to develop servicing strategies to meet long-term potable and non-potable water demands.	Coordinate with infrastructure and service providers	WAPC, other State agencies
48	Encourage local governments to protect local character by preparing and implementing design standards that require new development in existing urban areas to maintain and improve the streetscape and amenity of the locality. This can include the use of local planning schemes to vary the requirements of the R-Codes.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
49	Collaborate with local governments to undertake/ review local heritage surveys, and designate heritage lists and/or areas.	Update local planning frameworks as required	WAPC, local government
50	Engage with Gnaarla Karla Boodja Regional Corporation (proposed), South West Boojarah Regional Corporation (proposed) and Aboriginal heritage knowledge holders as stakeholders in the land use planning process.	Ongoing engagement	WAPC, local government

Appendix 3 – Schedule of Amendments

Amendment No.	Details	WAPC authorisation date

Annexure SGA11

SPP2.4 Basic Raw Materials Policy

ACTIVE
IN FORCE

GOVERNMENT OF WESTERN AUSTRALIA

Department of **Planning, Lands and Heritage**

Western Australian Planning Commission

State Planning Policy 2.4

Planning for Basic Raw Materials

July 2021

Prepared under Section 26 of the Planning and Development Act 2005 by the Western Australian Planning Commission

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DEFINITIONS 5

1 CITATION

This is a State Planning Policy made under Part 3 of the *Planning and Development Act 2005*. The policy may be cited as *State Planning Policy 2.4 Planning for Basic Raw Materials* (SPP 2.4).

2 POLICY INTENT

To ensure basic raw materials (BRM) and extractive industries matters are considered during planning and development decision-making, to facilitate the responsible extraction and use of the State's BRM resources.

3 BASIC RAW MATERIALS IN WESTERN AUSTRALIA

BRM are a finite resource and their efficient use is required to ensure an ongoing supply to support economic development in Western Australia.

Essential for the construction of buildings, roads, other infrastructure and agricultural production, for the purposes of this policy BRM are:

- sand (including silica sand)
- clay
- hard rock (including dimension stone)
- limestone (including metallurgical limestone)
- agricultural lime
- gravel
- gypsum
- other construction and road building materials
- materials which may substitute BRM.

The extraction of BRM on freehold land is recognised as an extractive industry under the *Planning and Development (Local Planning Schemes) Regulations 2015*. Extractive industry proposals on freehold land require development approval from the relevant local government.

Extractive industry proposals on Crown Land are regulated under the *Mining Act 1978* and require a granted mining tenement.

3.1 Supply categories for Basic Raw Materials

This policy recognises the following site categories for BRM:

- Significant Geological Supplies (SGS) - are identified as the highest priority extraction areas for BRM. SGS are BRM identified by the Department of Mines, Industry Regulation and Safety (DMIRS) that represent strategic, long-term supplies of BRM requiring protection.
- Extraction Sites (ES) - comprise all commercial sites from which BRM are extracted, and quarries. These may overlap with SGS areas. ES may include future, proposed, approved and operating commercial extractive industries under the *Planning and Development (Local Planning Schemes) Regulations 2015*, the *Local Government Act 1995*, the *Mining Act 1978* or a combination of these Acts.

The identification of BRM under these categories does not obligate the landowner to extract these resources, nor that government approvals for extraction is guaranteed.

4 APPLICATION OF THIS POLICY

SPP 2.4 should be read in conjunction with the Planning for BRM guidelines (the BRM guidelines). This policy and BRM guidelines apply to the preparation and assessment of planning instruments, including region and local planning schemes; planning strategies, structure plans; subdivision and development proposals in Western Australia where:

(a) proposals are over, or adjacent to, sites identified to contain BRM resources

(b) significant volumes of fill may be required

(c) approval is required for extractive industries under the *Planning and Development Act 2005*

(d) extractive industry proposals are assessed under the *Mining Act 1987* and due regard is given to planning instruments by the decision-maker.

This policy is to be considered in conjunction with the interactive geological map GeoVIEW.WA, as well as other relevant legislation and policies as outlined in the associated BRM guidelines.

State Planning Policy 2.5 Rural Planning (SPP 2.5) addresses BRM matters on rural land. Until such time as SPP 2.5 is reviewed, where there is a conflict between SPP 2.5 and this policy in relation to BRM matters, this policy prevails to the extent of any inconsistency.

4.1 Basic raw materials resources mapping

This policy operates in association with the interactive geological map (GeoVIEW.WA) produced by DMIRS. The GeoVIEW.WA identifies:

- Significant Geological Supply (SGS) areas
- known, proposed, approved or operating extraction sites (ES)
- exclusion areas – known or proposed sites excluded from BRM extraction due to environmental values, resource conflicts or for land use planning reasons.

GeoVIEW.WA mapping provides more detail on the boundaries of SGS, ES and exclusion areas for the Perth and Peel regions than for other regions. Outside the Perth and Peel regions, SGS areas and known ES are identified by the presence of geological resources and mining tenements.

The BRM resource mapping will be updated over time. It is not possible to include all ES, due to constraints in accessing information, as well as the fact that some ES are only in operation for short periods of time, and their operation may commence and cease in between mapping updates.

4.2 Policy exemptions

This policy does not apply to:

(a) mining matters in accordance with the *Mining Act 1978*

(b) areas subject to State Agreement Acts

(c) the dredging of material from the bed of tidal waters under the *Mining Act 1978*

(d) extraction of BRM for public works as deemed necessary by local governments under the *Local Government Act 1995*.

5 POLICY OBJECTIVES

The objectives of this policy are to:

(a) ensure BRM and its regional importance is considered at the earliest stages of the planning process;

(b) protect BRM in SGS areas and ES by avoiding encroachment from incompatible land uses;

(c) ensure BRM resources are used efficiently in land use planning and development;

(d) identify BRM extraction opportunities through sequential land use without compromising the final intended land use; and

(e) ensure the extraction of BRM avoids, minimises or mitigates any adverse impacts on the community, water resources and biodiversity values.

6 POLICY MEASURES

Planning decisions that impact on, or are impacted by, BRM operations should comply with the following measures.

6.1 Higher order strategic planning instruments

Higher order strategic planning documents such as region schemes, regional and sub-regional frameworks, their amendments, plus sub-regional and district structure plans should, where appropriate:

(a) identify SGS areas as the primary sources for BRM and define known exclusion areas;

(b) avoid and/or minimise the potential negative impacts on amenity and the environment arising from an extractive industry, when identifying areas for future growth;

(c) avoid and/or minimise encroachment on identified BRM resources and extractive industry operations when identifying areas for future growth;

(d) identify opportunities for the extraction of BRM from SGS areas followed by sequential urban or industrial development, where appropriate. There is a presumption against region scheme amendments until it is demonstrated how sequential land use will be achieved where a BRM resource has been identified; and

(e) seek to locate new urban and industrial areas on land where the need for additional imported fill is minimised.

6.2 Local planning instruments

Local planning strategies, schemes and local structure plans (including any amendments to these documents) should, where appropriate:

(a) identify SGS areas, their separation distances and establish transitional land uses and interface areas to:

  i. protect known BRM SGS areas and ES from encroachment by incompatible land uses;

  ii. avoid any health risks or amenity implications for adjacent land uses;

(b) not compromise the extraction of resources on SGS areas and ES;

(c) require an approved structure plan where future urban or industrial land is proposed for BRM extraction areas and sequential land use that demonstrates land staging and site remediation including identification of finished ground levels;

(d) seek to locate new urban and industrial areas on land where the need for additional imported fill is minimised; and

(e) require proposals for subdivision to minimise imported BRM for new urban and industrial areas.

6.3 Subdivision and development

Subdivision and development applications should demonstrate:

(a) that land uses are compatible by avoiding sensitive land uses within SGS areas and/or extraction site separation distances as outlined in the EPA *Guidance Statement No 3 – Separation Distances between Industrial and Sensitive Land Uses*;

(b) that transitional and interface land uses are compatible and should;

  i. have due regard for existing and future settlement patterns as described in local planning instruments;

  ii. have due regard for the existing BRM operations and consultation with land owners;

  iii. have regard for relevant documents as outlined in the associated BRM guidelines;

  iv. require a 'notification on title' advising of the proximity and location of existing or potential future extractive industry activity and potential adverse impacts resulting from the activity;

(c) how subdivision and development of land will minimise imported fill through consideration of site-responsive design, bulk earthworks, drainage planning and alternative construction methods; and

(d) the application of vertical separation distances to groundwater and other management measures to protect water resources where an extractive industry is proposed.

6.4 Development within Significant Geological Supply or Extraction Sites

Applications for development approval for activities not related to BRM extraction in SGS or ES areas should be assessed to determine whether:

(a) a proposal will impact on current or future BRM extraction operations;

(b) a subject site is identified in regional or sub-regional frameworks, sub-regional or local planning strategies for another purpose; and

(c) development results in an increase in the number of people living, working or congregating within a defined separation distance.

6.5 Development approval and management plans

Unless exempt, applications to establish, extend or expand an extractive industry require development approval under an applicable local planning scheme. Applications for development approval should be supported by a management plan that demonstrates:

(a) site description and analysis;

(b) strategic and statutory planning requirements;

(c) identification of the environmental values and those requiring protection;

(d) that extractive industry operations are adhering to designated separation distances and will not impact or be impacted by sensitive land uses;

(e) proposed transport routes used and site access details;

(f) sequential land use and a staging plan for the rehabilitation of the site for its intended long-term use; and

(g) compliance with any other considerations as outlined in the BRM guidelines.

DEFINITIONS

The terms used in this policy complement those contained in the *Planning and Development (Local Planning Schemes) Regulations* 2015 Model Scheme Text. The following additional definitions apply within this policy:

Basic raw materials (BRM)

For this policy, BRM means:

- sand (including silica sand[1])
- clay[2]
- hard rock (including dimension stone)
- limestone (including metallurgical limestone)
- agricultural lime
- gravel
- gypsum
- other construction and road building materials
- materials which may substitute BRM.

Crown land

Crown land means all land except:

(a) land that has been reserved for or dedicated to any public purpose other than —

(i) land reserved for mining or commons;

(ii) land reserved and designated for public utility for any purpose under the *Land Administration Act 1997*;

(b) land that has been lawfully granted or contracted to be granted in fee simple by or on behalf of the Crown;

(c) land that is subject to any lease granted by or on behalf of the Crown other than —

(i) a pastoral lease within the meaning of the *Land Administration Act 1997*, or a lease otherwise granted for grazing purposes only; or

(ii) a lease for timber purposes; or

(iii) a lease of Crown land for the use and benefit of the Aboriginal inhabitants;

(d) land that is a townsite within the meaning of the *Land Administration Act 1997*.

Exclusion areas

Exclusion areas contain known BRM resources but are considered unfavourable for excavation. These areas are likely to have protected environmental values or are excluded for planning or infrastructure reasons. There is a presumption against approval of extraction in these locations.

Extraction sites (ES)

ES comprise all commercial extraction areas for BRM and BRM quarries used by government for infrastructure. ES include operating, approved and proposed commercial (extractive) industries under the *Planning and Development Act 2005*, the *Local Government Act 1995*, the *Mining Act 1978* or a combination of these legislations. They may occur wholly or partly within or outside of SGS areas. Where they occur outside of SGS areas, they provide important local supplies and in some cases, provide for a specific market niche over the short to medium term.

Industry – extractive

Means premises, other than premises used for mining operations, that are used for the extraction of BRM including by means of ripping, blasting or dredging and may include facilities for any of the following purposes:

(a) the processing of raw materials including crushing, screening, washing, blending or grading;

(b) activities associated with the extraction of BRM including wastewater treatment, storage, rehabilitation, loading, transportation, maintenance and administration.

Interface

A point where different types of land uses meet or are in close proximity.

Note: Planning needs to manage this interface in situations where conflict may arise from the activities from one land use that affects others. Therefore, land uses at the point of interface need to be compatible.

Rehabilitation

Refers to activities related to site restoration during or following BRM extraction activities. Rehabilitation will consider short-term requirements, the intended final

[1] The *Mining Act 1978* covers silica, mineral and garnet sand on most land holdings – except certain pre-1899 land titles that hold Mineral to Owner rights.

[2] The *Mining Act 1978* covers kaolin, bentonite, attapulgite and montmorillonite clays on all land holdings

(sequential) land use of the site and conditions placed on operations. This should consider landform and finished floor levels, groundwater protection, management of air and water erosion, and future infrastructure requirements.

Separation distances

A separation distance is the distance recommended by the Environmental Protection Authority (EPA) to separate a source of emissions from sensitive land uses. Separation distances are determined in accordance with the EPA *Guidance Statement No.3 - Separation Distances between Industrial and Sensitive Land Uses* and should guide the establishment of transitional land uses that ensure the protection of community health, safety and amenity.

The separation distance has been established as the shortest distance between the boundary of an impacting land use (such as industrial) and the boundary of a sensitive land use (residential, for example).

Separation distances provide protection to sensitive land uses from an impacting land use but also protect the impacting land use from encroachment of incompatible land uses.

Sensitive land use

Sensitive land uses comprise land uses that are residential or institutional in nature, where people live or regularly spend extended periods of time. These include dwellings, short-stay accommodation, schools, hospitals and childcare centres and generally exclude commercial or industrial premises.

Significant Geological Supplies (SGS)

SGS are BRM areas identified by the Department of Mines, Industry, Regulation and Safety (DMIRS) as having State significance due to the size of the resource, relative scarcity, demand and/or location near growth areas and transport routes.

Special Control Areas

Special control areas (SCA) are intended to control a type of development which does not generally occur within a zone or reserve. The control may apply to only part of a zone or reserve or may overlap zone and reserve boundaries.

Transitional land uses

Within the separation distance a series of transitioning land uses may be used to transition between the impacting land use (for example, emitting noise, vibration, dust, odour etc) and sensitive land use being separated. Transitional land uses should be compatible and/or synergistic with adjacent land uses. There may be multiple interfaces within the separation distance depending on the number of transitional land uses.

Transport impact assessment

A transport impact assessment (TIA) determines the types and level of transport-related impacts on the community and amenity that may be generated from development and necessary mitigation actions. TIA guidelines support transport planning information, the level of information required and the format in which it should be presented for consideration.

Annexure SGA12

Shire of Harvey's TPS1

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SHIRE OF HARVEY

District Planning Scheme No. 1

Updated to include AMD 123 GG 15/11/2019

Department of Planning, Lands and Heritage

GOVERNMENT OF WESTERN AUSTRALIA

Prepared by the
Department of Planning, Lands and Heritage

Original Town Planning Scheme Gazettal
12 November 1996

DISCLAIMER

This is a copy of the Town Planning Scheme produced from an electronic version of the Scheme held and maintained by the Department of Planning. Whilst all care has been taken to accurately portray the current Scheme provisions, no responsibility shall be taken for any omissions or errors in this documentation.

Consultation with the respective Local Government Authority should be made to view a legal version of the Scheme.

Please advise the Department of Planning of any errors or omissions in this document.

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SHIRE OF HARVEY LPS 1 – TEXT AMENDMENTS

AMDT NO	GAZETTAL DATE	UPDATED		DETAILS
		WHEN	BY	
2	25/2/97	15/12/97	DH	Schedule 8 – adding Lot 220(3) and 207(1) Mulgara Street and Lot 221 (9) Mardo Avenue, Australind and permitted uses. *(R17)*
4	3/1/97	15/12/97	DH	Modifying the Zoning and Development Table to permit an "Eating House" in the "Intensive Farming" zone as an "SA" use. Introducing car parking requirement of one (1) bay per four (4) seats into the Zoning and Development Table ("Intensive Farming")
9	24/4/97	15/12/97	DH	Schedule 13 – inserting word "limestone" into definition for "Industry Extractive". Table 19 – General Industry – adding 24 Extractive Industry – SA. Table 22 – Kemerton Ancillary Industry – adding 11 Extractive Industry – SA. Table 26 – Intensive Farming – adding 24 Extractive Industry – SA. Table 29 – General Farming – modifying 15 Extractive Industry from "AA" to "SA" use. Part 9 – adding "Extractive Industries - 9.13.1 and 9.13.2" into text.
15	8/8/97	15/12/97	DH	Schedule 13 – adding definition "Short Stay Accommodation". Table 3 – adding "20. Short Stay Accommodation – SA". Table 6 – adding 30. Short Stay Accommodation – SA". Table 26 – adding 25. Short Stay Accommodation – SA". Table 29 – adding 37. Short Stay Accommodation – SA". Amending zoning & development standards for above tables to include standards for Short Stay Accommodation.
16	14/11/97	15/12/97	DH	Schedule 7 – adding Lot 6 Feast Place, Leschenault with an additional use – "Cattery". Schedule 7 – adding Special Provisions 1 – 5.
20	14/11/97	15/12/97	DH	Schedule 3 – adding subclause 3.3.5 under Clause 3.3 Area 2 – Warawarrup.
22	5/12/97	15/12/97	DH	Tables 17 & 19 – adding "Place of Public Worship" within the Light & Service Industry and General Industry zones as an "SA" use.
				Area team corrections completed. Sent to Shire Harvey for checking on 7/1/98
17	22/1/99	27/1/99	DH	Schedule 3 – adding A3.10 Area 9 – Cathedral Avenue, Leschanault. (S Res 9) Schedule 4 – adding under Clause 4.4 – Cathedral Avenue, Leschenault "Subdivision of Lots 21 & 24".
26	22/1/99	27/1/99	DH	Schedule 8 – adding "Portion of Lot 27 Coalfields Road, Roelands" together with relevant permitted uses. *(R19)*
14	26/2/99	10/3/99	DH	Part 3 – deleting existing Clause 3.9.1 and replacing with new Clause 3.9.1.
28	18/5/99	26/5/99	DH	Schedule 7 – adding additional use A6. South Western Highway, Wokalup" *(A6)*
23	30/7/99	3/8/99	DH	Schedule 3 – adding new clause "3.11 Area 10 Western residential Precinct – Treendale".
33	3/9/99	6/9/99	DH	Schedule 7 – adding "6. Young Street/Sir James Ave Harvey" with relevant particulars of land and permitted uses. *(A6)*
32	5/11/99	8/11/99	DH	Schedule 4 – adding "4.9 Area 9 – Raymond Road (East), Roelands".
24	9/11/99	15/11/99	DH	Schedule 4 – adding "4.8 Area 8 – Forestry road and Myalup Road".
30	25/2/00	28/2/00	DH	Schedule 4 – adding "4.10 Area 10 – Hinge Road, Harvey".
38	9/5/00	9/5/00	DH	Schedule 3 – adding "Pt Lot 30 School Road, Yarloop (Area 9)" and special provisions relating to that area *(Note: Already have S Res 9)* (S Res 9) *Rang Shire of Harvey and they will do a correction.*
6	15/8/00	16/8/00	DH	Schedule 19 – inserting "Area2: Treendale Farm". Schedule 8 – inserting A18. Portion of Wellington Location 1 Ditchingham Place, Australind" and relevant permitted uses. *(R18)*
39	15/9/00	25/9/00	DH	Schedule 6 – adding "6.2 Area 2: Lots 21m 26m 27 and 28 Clifton Close road and Clifton Close, Australind". Schedule 6 – amending "Policies on Outline Planning Areas' of the Scheme by replacing "Clause 5.5" with "clause 6.5".
43	7/11/00	5/11/00	DH	Schedule 7 – adding "8. Lot 96 Paris Road Australind with a permitted use of Professional Office".

AMDT NO	GAZETTAL DATE	UPDATED		DETAILS
		WHEN	BY	
44	28/9/01	28/9/01	DH	Schedule 3 – including "Wellington Location 5069, Waterloo Road, Roelands" under Area 8, Waterloo Road, Roelands. Schedule 3 – under Area 8, modifying existing Clause 3.9.1. Schedule 3 – modify by adding clauses 3.9.9 and 3.9.10.
41	29/1/02	29/1/02	DH	Schedule 4 – adding "4.11 AREA 11 – RAYMOND ROAD (NORTH EAST), ROELANDS".
47	8/2/02	5/2/02	DH	Part 2 – adding new Clause "2.8 Unauthorised Existing Developments" after existing Clause 2.7. Part 6 – modifying Clause 6.2.5. Part 6 – modifying Clause 6.6.1 (b) and (d). Part 8 – modifying Clause 8.2 of the Scheme to include "Water & Rivers Commission", after "Conservation and Land Management". Part 10 – Rewording Clause 10.5. Part 11 – inserting new Clause "11.7 Delegation of Functions". Table 2 – modifying Land Use Category No. 3 to read "Two Grouped Dwellings with reticulated sewer". Table 2 – modifying Land Use Category No. 4 in Table 2 under minimum effective frontage to read "22m". Table 31 – modifying "Special Rural" by adding a new Land Use Category No. 13 to permit "Rural Pursuit" as an "AA" use. Table 1 – modifying "Special Residential" by adding a new Land Use Category No. 10 – "Bed & Breakfast Accommodation" as an "AA" use. Table 3 – modifying "Residential" by adding a new Land Use Category No. 22. "Bed & Breakfast Accommodation" as an "SA" use and including under "Minimum Carparking spaces" the wording "2 carparking bays per dwelling and one for each bedroom used for guests". Table 6 – modifying "Residential Development" by adding a new Land Use Category No. 32 "Bed & Breakfast Accommodation" as an "SA" use and including under "Minimum Carparking spaces" the wording "2 carparking bays per dwelling and one for each bedroom used for guests". Table 29 – modifying "General Farming" by adding a new Land Use Category No. 38 "Bed & Breakfast Accommodation" as an "AA" use and including under "Minimum Carparking spaces" the wording "2 carparking bays per dwelling and one for each bedroom used for guests". Table 31 – modifying "Special Rural" by adding a new Land Use Category No. 14 "Bed & Breakfast Accommodation" as an "AA" use and including under "Minimum Carparking spaces" the wording "2 carparking bays per dwelling and one for each bedroom used for guests". Table 32 – modifying "Special Rural & Landscape Protection" by adding a new Land Use Category No. 10 "Bed & Breakfast Accommodation" as an "AA" use and including under "Minimum Carparking spaces" the wording "2 carparking bays per dwelling and one for each bedroom used for guests". Table 3 – adding new Land Use Category No. 21 "Display Home Centre" as an "AA" use and including under Minimum Carparking Spaces the wording "Off street parking of 4 bays per display home" Table 6 – adding new Land Use Category No. 31 "Display Home Centre" as an "AA" use and including under Minimum Carparking Spaces the wording "Off street parking of 4 bays per display home" Schedule 13 – adding interpretation "Bed and Breakfast Accommodation" and "Display Home Centre".
50	13/9/02	10/9/02	DH	Schedule 7 – amending Additional Use No. 6 for Pt Lot 36 South Western Highway, Wokalup.
54	29/10/04	3/11/04	DH	Schedule 19 – adding to schedule "Area 3: Part Lot 1000 Barnes Avenue, Australind".
57	14/12/04	15/12/04	DH	Schedule 19 – adding to Residential Area 2: Treendale Farm, new clauses (iv) and (v). Schedule 8 – deleting Restricted Use Area 18 and associated development controls.
60	17/2/06	21/2/06	DH	Schedule 8 – adding Restricted Use Area R20. "Lot 363 Mardo Avenue & Mulgarra Street, Australind" together with relevant permitted uses.
58	9/5/06	16/5/06	DH	Schedule 19 (Additional Requirements – Residential Development Zone' – adding "Area 3: Part of Lot 333 Old Coast Road, Australind".
61	26/5/06	13/6/06	DH	Schedule 7 – adding additional use Area *A7* "Lot 9 Swamp Road Benger" together with relevant particulars of land and permitted uses.
5	20/3/07	¾/07	DH	Schedule 19 – adding new clause "Area 5 – East Australind – Collie River Precinct".

AMDT NO	GAZETTAL DATE	UPDATED		DETAILS
		WHEN	BY	
69	18/9/07	2/10/07	DH	Schedule 7 – inserting Additional use Area "9. Lot 16 Papps Road, Brunswick" together with relevant permitted uses.
67	23/1/09	28/1/09	DH	Schedule 5 – in Area 1 – Australind Light Industrial Area delete point 9. Schedule 5 – I after sub-area 5, Point 5 at "Area 3 – Australind Light Industrial Area (Restricted).
70	31/3/09	21/4/09	DH	Schedule 19 (Area 2) – amending by inserting words "and the southern portion of Lot 201 Ditchingham Place, Australind" before the words "Ditchingham Place, Australind" in first paragraph.
85	14/7/09	20/7/09	DH	Zoning & Development Table – inserting 'Betting Agency' for the 'Hotel' zone as an 'AA' land use together with development standards.
68	4/8/09	19/8/09	DH	Schedule 8 – adding Restricted Use area R21 "Lots 502, 503, 504, 534, 535, and 536 Leisure Drive and Walingale Drive.
78	11/8/09	19/8/09	DH	Schedule 3 – adding Special Residential zone "Area 11 – Waterloo road, Roelands East".
87	19/1/10	11/3/10	NM	Inserted "Family Day Care" as an SA in Tables "Residential", "Residential Development", "Special Residential". Changed "Day Care Centre" to "Child Centre" in Zoning and Development Tables for land zoned "Residential", "Residential Development", "Shop", "Office" and "Other Community". Removed "Day Care Centre" from Schedule 13 – Interpretations. Inserted "Family Day Care" and "Child Care" into Schedule 13 – Interpretations.
74	25/01/11	03/02/11	NM	Inserted "4.13 AREA 13 – Herbert Road, Harvey" into Schedule 4 – Additional Requirements – Special Rural Zone. Inserted "3.13 AREA 12 – Fryer Road, Harvey" into Schedule 3 – Additional Requirements – Special Residential Zone.
93	23/09/11	04/10/11	NM	Deleted Clause 6.7.3. Reworded Clause 6.7.2. Renumbered Clause 6.7.4 to 6.7.3. Deleted Clauses 6.5.2 and 6.5.3 and reworded Clause 6.5.1(a). Modified clause 7.3. Inserted new clause 9.14.
76	21/01/11	03/11/11	NM	Inserted "Area 6" into Schedule 19 – Additional Requirements – Residential.
92	08/11/11	29/11/11	NM	Inserted reference R22 into Schedule No. 8 – Restricted Uses.
63	10/7/12	24/7/12	NM	Inserted Figure 1 into Schedule 19 – Additional Requirements in relation to Area No: 6 – Binningup Beach South. Inserted Area No: 6 – Binningup Beach South into Schedule 19 – Additional Requirements.
82	25/9/12	9/10/12	NM	Inserted clause 6.3 into Schedule 6 'Policies on Outline Planning Areas'.
90	18/6/13	24/6/13	NM	Inserted A10 and A11 into Schedule 7 – Additional Uses. Inserted 'produce market' into Schedule 13 – interpretations.
102	8/10/13	29/10/13	NM	Inserted 'Old Coast Road, Myalup, Lot 4857' into Schedule 7. Inserted 'Brewery' into Schedule 13.
106	26/8/14	6/2/15	LD	Amending Schedule 8 – South West Hwy Warawarrup – Portion lot 269 and 77 – Cement Works
96	13/3/15	26/3/15	LD	Maps only
107	27/3/15	31/3/15	LD	Insert A13 into Schedule 7 – Additional Uses
110	12/6/15	30/6/15	LD	Schedule 3 – Modifying Clause 3.11.2
112	15/9/15	17/9/15	LD	Inserting into Schedule 7 'Schedule of Additional Uses' A14 Lot 39 Peterson Road Warawarrup
111	11/12/15	7/1/15	LD	Schedule 3 - Including Lot 568 Forrest Hwy Roelands as Special Area No 14 Schedule 8 Restricted Uses - Inserting text for 23 Forrest Hwy Roelands
98	22/4/16	8/8/16	LD	Deleting Clause 9.2 & 2.1 Replacing clause 9.10.5 Deleting Clause 2.4 "Determination of applications" Deleting Clause 2.4.1 - 2.4.5 Removing all buildings and places of heritage significance from Schedule 1 being items numbered 1-14 and 16-23 Schedule 1 - Changing title from "Buildings and Places of Heritage Significance" to "Places of Landscape Value" and inserting details for places L1 to L5 Clause 4.1.1 - Replacing heading "Place of Heritage Value" with "Place of Landscape Value" Amending Clause 9.1.1 and 9.1.2 Removing Clause 6.6 and renumbering Clause 6.7 as Clause 6.6 Schedule 13 - Inserting new definition "Precinct" Amending Clause numbers to reflect the above

AMDT NO	GAZETTAL DATE	UPDATED		DETAILS
		WHEN	BY	
109	8/7/16	11/8/16	LD	Schedule 3 - Including lot 9001 as Special Residential Area No. 13
116	06/06/17	12/06/17	GM	Following Clauses, Parts and Schedules deleted from the Scheme Text, as they have been superseded by the deemed provisions set out in the *Planning and Development (Local Planning Scheme) Regulations 2015* Schedule 2: 1.4(iii), 2.1, 2.2 (except clause 2.2.2), 2.4, 4.5.1, 6.5.1(b), 6.5.4, 6.5.6, 9.9.2, 9.9.4, 9.12.2(c), 9.13, 11.1, 11.5, 11.6.1, 11.6.3-11.6.7, 11.7, Part V, Schedules 10, 11A, 11B, 11C and 15. Replaced Clause 11.6. Inserted Schedule A – Supplemental Provisions. Deleted the following definitions from Schedule 13, as they have been superseded by the definitions in the deemed provisions set out in the *Planning and Development (Local Planning Scheme) Regulations 2015* Schedule 2: Act, Advertisement, Owner and Zone. Updated all cross-references throughout the Scheme Text, where such previous clauses have been superseded by the Deemed Provisions, in the following form: 'CIXX of the Deemed Provisions'. Replaced the following terms within the Scheme: 'Application for Planning Consent' replaced with 'Application for Development Approval'. 'Council' replaced with 'Local Government'. 'District Planning Scheme Policy' and 'Precinct Planning Policy Area Statements' replaced with 'Precinct Policy Statements'. 'Planning Approval' replaced with 'Development Approval'. 'Planning Consent' replaced with 'Development Approval'. 'Planning Precinct Policy Area' and 'Planning Precinct' replaced by 'Precinct Boundary'. 'Residential Design Codes' replaced with 'R-Codes'. Inserted new Clause 1.4(iii). Renumbered the remaining Scheme provisions and Schedules sequentially and updated any cross referencing to the new clause numbers as required.
117	27/06/17	05/07/17	GM	Inserted 'Ancillary Dwelling' into Schedule 13 – Interpretations. Modified Zoning Table by inserting 'Ancillary Dwelling' and made it a 'P' use in the Residential zone and an 'IP' use in the Special Residential, Residential Development, Special Rural, Special Rural - Landscape Protection, Intensive Farming and General Farming zones. Provided setbacks in the zoning table to the 'Ancillary Dwelling' use, as introduced above, which are consistent with that of a 'Dwelling' in each of the respective zones. Inserted provision and Clause 61 (1) (o) into Schedule A. Modified Clause 6.3.6. Modified Policy Statement of Table 31 – Zoning and Development Standards for the Special Rural Zone. Inserted Clause 6.1.4. Inserted Clause 9.13 Inserted Clause 8.7. Replaced the following terms within the Scheme: "Caretaker Dwelling" and "Caretaker House" to be replaced with "Caretaker's Dwelling". Reworded the definition of 'Caretaker's Dwelling' in Schedule 13 – Interpretations of the Scheme so it is consistent with the definition of 'Caretaker's Dwelling' set out in the Model Provisions – Schedule 1 Part 6 of the *Planning and Development (Local Planning Schemes) Regulations 2015.*
114	04/07/17	06/07/17	GM	Tables 20 and 21 amended by: • Deleting 'Kemerton Park Industry (Heavy)' zone and 'Inter Industry Buffer' zone from Clause 4.1 and referenced in Tables and replaced with a new zone 'Kemerton Strategic Industry. • 'Other Requirements' column wording replaced. • 'Policy Statement' wording replaced. Table 20 amended by: • Changing the permissibility of the following land uses - Noxious Industry, Hazardous Industry, Waste Treatment Works, Gas Manufacture and Storage, Fuel Depot, Electricity Generation and Public Utility from 'SA' to 'AA'. • Deleting the land use of 'Waste Treatment Works'. Table 22 amended by: • Replacing the terms 'Kemerton Park Industrial' and 'Kemerton Park Industry' with 'Kemerton Strategic Industry'. • Deleting the land use of 'Dry Cleaning Premises'.

AMDT NO	GAZETTAL DATE	UPDATED		DETAILS
		WHEN	BY	
				Table 33 amended by: • Deleting 'Kemerton Buffer' zone from Clause 4.1 and Table 33 and replacing with a new zone 'Kemerton Industry Buffer'. • Deleting the words 'Schedule 4 applies' in 'Other Requirements' column and replaced with new wording. • Deleting the words 'Kemerton Heavy' and replaced with 'Kemerton Strategic Industry'. • Deleting the land uses 'Viticulture/Horticulture, Market Garden' and 'Piggery'. Table 34 deleted and subsequent Tables renumbered and correlated table numbers in clause 4.1 accordingly. New Clause 4.8 added. Clause 7.3 replaced. Schedule 18 deleted. Schedule 5, Area 2 (Kemerton Industrial Area and Buffer – Statement of Policy) deleted. Schedule 14, Area 6 (Kemerton Industrial Park Area and Buffers) deleted. Scheme Map amended by: • rezoning lots located within the Core of the Structure Plan: portion of Lot 70 Wellesley Road, Lots 5, 6, 7, 8, 9, 10, 11, 15, 17, 18, 43 Wellesley Road, Lot 5366 (Reserve 37513) Wellesley Road, Lots 509 Mitchell Road, Lots 12, 13, 122 Treasure Road, Lots 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30 Plantation Outlook, Wellesley, Lots 18, 19, 20, 25, 26, 27, 28, 29, 30, 31, 32, 33, 48, 49, 50, 51 Ridgeview Way, from 'Kemerton Buffer' to 'Kemerton Strategic Industry' zone. • rezoning Lot 92 Bernbrooke Place, Lot 20, Marriott Road, Wellesley located within the'Inter-Industry Buffer' zone to 'Kemerton Industry Buffer' zone, as depicted on the Scheme Amendment Map.
115	7/9/18	10/9/18	HB	Amend the text in Schedule 3 - Additional Requirements Special Residential zone of the Scheme by replacing 3.12.1 to 3.12.5. Modify the text in Area 11 Schedule 3, 3.12.7. Renumber subsequent provisions accordingly.
119	25/9/18	27/9/18	HB	Rezone Lot 6238 Mitchell Road, Benger from 'No Zone' to 'General Farming'. Amend the Shire of Harvey District Planning Scheme No. 1 zoning map accordingly.
121	18/1/19	21/1/19	HB	Insert the following clause as Clause 4.2.2. Include the following note at the bottom of each 'Zoning and Development Standards Table'. 'Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2'.
120	15/11/19	21/11/19	MLD	Modifying the text in Schedule 7 – Schedule of Additional Uses of the Scheme by replacing the existing Area 10. Inserting Additional Use 15 in Schedule 7 – Schedule of Additional Uses. Additional Use 15 (A15) to include a 'Fast Food Outlet (drive-through coffee shop only)' land use into the Only Use Permitted column in addition to all of the uses already permitted in Additional Use 10.
122	15/11/19	21/11/19	MLD	Amend Schedule 3 – Additional Requirements – Special Residential Zone, Area 10 – Western Residential Precinct – Treendale by inserting the Clause 3.11.10. Rezone a portion of Lots 6, 7, 8, 9 and 10 Cragie Drive Roelands from 'No Zone' to 'Special Residential' and being within Special Residential Area 10. Amend the Scheme map accordingly.
123	15/11/19	21/11/19	MLD	Insert Additional Use 17 in Schedule 7 – Schedule of Additional Uses. Additional Use 17 (A17) to include a 'Betting Agency' land use into the Only Use Permitted column Amending the Scheme maps accordingly.

SHIRE OF HARVEY

DISTRICT PLANNING SCHEME NO. 1

THE HARVEY SHIRE COUNCIL, UNDER AND BY VIRTUE OF THE POWERS CONFERRED UPON IT IN THAT BEHALF BY THE TOWN PLANNING AND DEVELOPMENT ACT, 1928 (AS AMENDED), HEREINAFTER REFERRED TO AS THE "ACT" HEREBY MAKES THE FOLLOWING TOWN PLANNING SCHEME FOR THE PURPOSES LAID DOWN IN THE ACT.

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PART I – PRELIMINARY

1.1 CITATION

This District Planning Scheme may be cited as the Shire of Harvey District Planning Scheme No. 1 hereinafter called "the Scheme" and shall come into operation on the publication of the Scheme in the Government Gazette.

1.2 RESPONSIBLE AUTHORITY

The authority responsible for implementing the Scheme is the local government of the Shire of Harvey hereinafter called "the local government".

1.3 SCHEME AREA

The Scheme applies to the whole of the land within the Shire of Harvey as shown on the Scheme map including the areas covered by the Scheme maps indicated thereon.

1.4 CONTENTS OF SCHEME

AMD 116 GG 06/06/17

This Scheme comprises:

(i) This Scheme Text

(ii) The Scheme Map (Sheets 1-14)

(iii) The Deemed Provisions (as set out in Schedule 2 of the *Planning and Development (Local Planning Scheme) Regulations 2015.*

1.5 ARRANGEMENT OF SCHEME TEXT

The Scheme text is divided into the following parts:

Part 1 Preliminary
Part 2 Development Approval
Part 3 Reserves
Part 4 Zones
Part 5 Scheme Policies
Part 6 Additional Development Requirements in Residential Zones
Part 7 Additional Development Requirements in Other Urban Zones
Part 8 Additional Development Requirements in Rural Zones
Part 9 Miscellaneous Development Requirements
Part 10 Non-Conforming Use of Land
Part 11 Administration

1.6 SCHEME OBJECTIVES

1.6.1 The objectives of the Scheme are:

(a) to encourage and control the continued orderly development of land within the Shire in a manner that enhances the quality of life of the Shire community;

(b) to ensure that the existing standard of roads water supply, effluent disposal, electricity supply and other community services are sufficient for the additional demands proposed development would create;

(c) to promote economic development and tourism within the Shire and increase local employment opportunities;

(d) to provide opportunities for a wide range of lifestyles providing areas for urban and rural living;

(e) to retain the pre-eminence of agriculture, and restrict development that detracts from the potential of significant agricultural land;

(f) to preserve and enhance places of natural beauty particularly along the coast, the rivers and inlets and the scarp, and to preserve historic buildings and objects of historical and scientific interest; and

(g) to protect and preserve the more important natural flora and fauna habitats (ecosystem, biodiversity and essential ecological processes), and other environmentally sensitive areas that are prone to degradation on the principle that the extent and manner of use of these areas should be kept within their capabilities of being sustained without degradation in the long term.

1.6.2 In considering applications for development approval, subdivision or amendments to this Planning Scheme the local government shall have regard to the above objectives.

1.7 REVOCATION OF EXISTING SCHEME

The Shire of Harvey Scheme No. 10, as amended, which came into operation by publication in the Government Gazette on 17th June, 1983, is hereby revoked.

1.8 OTHER GAZETTED SCHEMES

This Scheme prevails over the following Planning Schemes to the extent of any inconsistency:-

Shire of Harvey Planning Scheme No. 3
Australind Development Scheme (as amended).
(Published in the Government Gazette of 21st April, 1978.)

Shire of Harvey Planning Scheme No. 6
Harvey Industrial Scheme.
(Published in the Government Gazette of 23rd July, 1971.)

Shire of Harvey Planning Scheme No. 12
Binningup Development Scheme.
(Published in the Government Gazette of 2nd October, 1987.)

Shire of Harvey Planning Scheme No. 4
Leschenault Parklands Development Scheme (as amended) and published in the Government Gazette of 17th November, 1978, will apply to the Leschenault Parklands Area, as gazetted, and will apply in conjunction with this Scheme.

1.9 INTERPRETATION

1.9.1 Except as provided in Clauses 1.9.2 and 1.9.3 the words and expressions of the Scheme have their normal and common meaning.

1.9.2 In the Scheme unless the context otherwise requires, or unless it is otherwise provided herein, words and expressions have the respective meanings given to them in Schedule 13 and the Residential Planning Codes.

1.9.3 Where a word or term is defined in the Residential Planning Codes then notwithstanding anything else in the Scheme that word or term when used in respect of residential development has the meaning given to it in the Residential Planning Codes.

PART II – DEVELOPMENT APPROVAL

AMD 116 GG 06/06/17

2.1 Where an application is made for development approval to commence or carry out development which involves an "AA" use as described in Clause 4.2.3, or for any other development which requires the development approval of the local government, the local government may give notice of the application in accordance with Clause 64 of the Deemed Provisions.

2.2 DEVELOPMENT ALONG IMPORTANT REGIONAL ROADS

2.1.1 The area defined on the Scheme Map as an Important Regional Road shall not be developed for purposes other than those approved by the Main Roads WA.

2.1.2 The local government shall refer any application for development approval for development which adjoins or is contained within the road area, to the Main Roads WA.

2.3 DEVELOPMENT OF LOTS ABUTTING UNCONSTRUCTED ROADS

2.2.1 All development, for a single dwelling on lots abutting an unconstructed road in the General Farming and Intensive Farming zone, shall be the subject of a development application in terms of Clauses 62 and 63 of the Deemed Provisions.

2.2.2 Local government may as a condition of development approval for a development application lodged in accordance with Clause 2.1 of this Scheme, include a condition requiring the provision of a Constructed Road.

2.4 UNAUTHORISED EXISTING DEVELOPMENTS

AMD 47 GG 8/2/02

2.4.1 The Local Government may grant development approval to a use or development already commenced or carried out regardless of when it was commenced or carried out, if the development conforms to the provisions of the Scheme.

2.4.2 Development which was unlawfully commenced is not rendered lawful by the occurrence of any subsequent event except the granting of development approval, and the continuation of the development unlawfully commenced is taken to be lawful upon the grant of development approval.

Note: 1. Applications for approval to an existing Development are made under Clauses 62 and 63 of the Deemed Provisions.

2. The approval by the Local Government of an existing development does not affect the power of the Local Government to take appropriate action for a breach of the Scheme or the Act in respect of the commencement or carrying out of development without development approval.

PART III – RESERVES

3.1 LOCAL AUTHORITY SCHEME RESERVES

The lands shown as Local Authority Scheme Reserves on the Scheme Map are lands reserved under the Scheme for Local Authority purposes or for the purposes shown on the Scheme Map.

3.2 MATTERS TO BE CONSIDERED BY LOCAL GOVERNMENT

Where an application for development approval is made with respect to land within a Reserve, the local government shall have regard to the ultimate purpose intended for the reserve and the local government shall in the case of land reserved for the purposes of a Public Authority, confer with that Authority before granting its consent.

3.3 COMPENSATION

3.3.1 Where a local government refuses development approval for the development of a Reserve on the ground that the land is reserved for Local Authority purposes or for the purposes shown on the Scheme Map, or grants consent subject to conditions that are unacceptable to the applicant the owner of the land may, if the land is injuriously affected thereby, claim compensation for such injurious affection.

3.3.2 Claims for such compensation shall be lodged at the office of the local government not later than six months after the date of the decision of the local government refusing development approval or granting it subject to conditions that are unacceptable to the applicant.

3.3.3 In lieu of paying compensation the local government may purchase the land affected by such decision of the local government at a price not exceeding the value of the land at the time of refusal of development approval or of the grant of consent subject to conditions that are unacceptable to the applicant.

PART IV – ZONES

4.1 ZONES

4.1.1 There are hereby created the zones set out hereunder:-

Residential Zones:
Special Residential (Table 1)
Residential (Tables 2 and 3)
Residential Development (Table 4, 5 & 6)

Commercial Zones:
Tourist (Tables 7 and 8)
Shop (Tables 9, 10 and 11)
Office (Tables 12 and 13)
Other Commercial – Showroom (Tables 14 and 15)

Industry Zones:
Light and Service Industry (Tables 16 and 17)
General Industry (Tables 18 and 19)
Kemerton Ancillary Industry (Table 22)
Kemerton Strategic Industry (Table 20 and 21) *AMD 114 GG 04/07/17*

Public Purpose Zones:
Other Community (Tables 23 and 24)

Non Urban Zones:
Intensive Farming (Tables 25 and 26)
General Farming (Tables 27, 28 and 29)
Forestry (Table 30)
Special Rural (Table 31)
Special Rural – Landscape Protection (Table 32)
Kemerton Industry Buffer (Table 33) *AMD 114 GG 04/07/17*
Wetland Protection (Table 34)

Special Use Zones:
Hotel (Tables 35 and 36)
Service Station (37)

Areas:
Outline Planning Area
Place of Landscape Value *AMD 98 GG 22/4/16*
Additional Use
Restricted Use

4.1.2 The zones are delineated and depicted on the maps according to the legend thereon.

4.2 ZONING AND DEVELOPMENT TABLES

4.2.1 The Zoning and Development Tables indicate, subject to the provisions of the Scheme, the uses permitted in the various zones and the development standards that apply to various uses specified in the Table for each Zone.

4.2.2 The Minimum Lot Areas as specified in the Zoning and Development Standards Tables are to be used as development standards only, and are not to be interpreted as a minimum lot size for the purpose of guiding subdivision. *AMD 121 GG 18/1/19*

4.2.3 The symbols used in the cross reference in the Zoning Table have the following meanings:-

"P" Means that the use is permitted provided it complies with the relevant standards and requirements laid down in the Scheme and conditions (if any) imposed by the local government in granting development approval.

"AA" Means that the local government may, at its discretion, permit the use.

"SA" Means that the local government may, at its discretion, permit the use after notice of application has been given in accordance with Clause 64 of the Deemed Provisions.

"IP" Means a use that the local government may permit if it is incidental to the predominant use of the land, provided also that the predominant use is in accordance with the provisions of this Scheme.

4.2.4 Where in the Zoning Table a particular land use category is mentioned it is deemed to be excluded from any other land use category which by its more general terms might otherwise include such particular use.

4.2.5 If the use of land for a particular purpose is not specifically mentioned in the Zoning Table and cannot reasonably be determined as falling within the interpretation of one of the land use categories the local government may:-

(a) determine that the use is not consistent with the objectives and purposes of the particular zone and is therefore not permitted; or

(b) determine by absolute majority that the proposed use may be consistent with the objectives and purpose of the zone and thereafter follow the advertising procedures of Clause 64 of the Deemed Provisions in considering an application consent. In approving such an application the local government may apply any conditions or development standards it deems necessary.

4.3 BROAD ACRE ZONING

4.3.1 Where, on the Scheme Maps, "Residential" and "Special Residential" zoning has been shown over land not yet subdivided, such area shall be subject to the provisions of Clause 5.5 – Outline Planning Areas.

4.4 DISCRETION TO MODIFY DEVELOPMENT STANDARDS

4.4.1 If a development, other than a residential development the subject of an application for development approval, does not comply with a standard or requirement prescribed by the Scheme with respect to landscaping, carparking, setbacks, site coverage, minimum effective frontage and related matters, the local government may, notwithstanding that non-compliance, approve the application unconditionally or subject to such conditions as local government see fit. The power conferred by this Clause may only be exercised if the local government is satisfied that:-

(a) approval of the proposed development would be consistent with the orderly and proper planning of the locality and the preservation of the amenities of the locality;

(b) the non-compliance will not have any adverse effect upon the occupiers or users of the development or the inhabitants of the locality or upon the likely future development of the locality; and

(c) the spirit and purpose of the requirements or standard will not be unreasonably departed from thereby.

4.4.2 The local government may relax the requirements of the zoning and Development Table in respect of a use that is incidental to the predominant use of the land or the use involves the conversion of existing premises.

4.4.3 Without limiting the generality of the foregoing the local government may impose additional restrictions and requirements not specified in the Zoning and Development Table when granting development approval to commence development pursuant to Clause 68 of the Deemed Provisions.

4.5 RESIDENTIAL DEVELOPMENT – RESIDENTIAL PLANNING CODES

AMD 116 GG 06/06/17

4.5.1 A copy of the Residential Planning Codes, as amended, shall be kept and made available for public inspection at the offices of the local government.

4.5.2 Unless otherwise provided for in the Scheme the development of land for any of the residential purposes dealt with by the Residential Planning Codes shall conform to the provisions of those Codes.

4.5 3 The residential density applicable to land zoned “Special Residential” or “Residential” within the Scheme Area shall be determined by reference to the Residential Planning Code density indicated in the Zoning and Development Tables.

4.6 RESIDENTIAL PLANNING CODES – VARIATIONS AND EXCLUSIONS

Where, in the Zoning and Development Tables minimum lot sizes are specified which differ from those specified in the Codes, they shall be taken as variations to the Codes for the purposes of residential development.

4.6.1 Development of Lots below Minimum Lot Area

On land in the Special Residential and the Residential Zone, notwithstanding the provisions of this Scheme and the Residential Planning Codes, the local government may approve development on existing lots below the minimum development standards for a single house, subject to conditions.

4.7 ADDITIONAL AND RESTRICTED USES

4.7.1 Those portions of the Scheme Area which are specified in Schedule 7 are classified as Additional Use Areas.

4.7.2 Notwithstanding that a parcel of land described in Schedule 7 is within another zone the land or any building or structure thereon may be used for the purpose set against that parcel of land in Schedule 7 in addition to the other uses permitted in the zone in which the land is situated.

4.7.3 Those portions of the Scheme Area which are specified in Schedule 8 are classified as Restricted Use Areas for the uses or purposes set against such land respectively in Schedule 8.

4.7.4 A person shall not use any land, any building or any structure thereon in a Restricted Use Area except for the use or purpose set against such land in Schedule 8.

4.8 DEVELOPMENT WITHIN THE KEMERTON STRATEGIC INDUSTRIAL AREA

AMD 114 GG 04/07/17

4.8.1 The Kemerton Strategic Industrial Area is made up of the land zoned Kemerton Strategic Industry, Kemerton Ancillary Industry, and Kemerton Industry Buffer. The objectives of the Kemerton Strategic Industrial Area are to:

(a) accommodate resource processing industries and associated supporting activity in order to fulfill its designated role as a strategic industrial area for the South-West region;

(b) provide industrial development areas that:

i. are identified for subdivision and Strategic and Ancillary development;
ii. are sufficiently flexible to accommodate the varying needs of future proposals including the need for flexible servicing arrangements for industry within the Kemerton Strategic Industry zone;
iii. achieve beneficial economic, environmental and community outcomes;

iv. encourage synergic interactions between business activities consistent with the principles of industrial ecology;
v. are protected from the encroachment of incompatible uses;
vi. respect visual management considerations;
vii. enable environmental protection and management arrangements that minimise impact on the natural environment; and
viii. respect sites of Aboriginal heritage significance.

4.8.2 When considering development applications with respect to land wholly or partly within the Kemerton Strategic Industry zone or the Kemerton Industry Buffer zone, the Local Government shall refer the proposal to the relevant State Government Agencies for comment to ensure the proposal does not conflict with the strategic intentions for industry and infrastructure development in the zone.

4.8.3 When considering development applications with respect to land wholly or partly within the Kemerton Industry Buffer zone, applicants are required to satisfy the provisions of Part 5 – Division 3 – Kemerton Industrial Zone Buffer Area and Part 7 – Applications for Planning Approval of the Greater Bunbury Region Scheme.

PART V – ADDITIONAL DEVELOPMENT REQUIREMENTS IN RESIDENTIAL ZONES

The development requirements in this Part shall be in addition to the requirements and development standards specified in the Zoning and Development Tables.

5.1 RESIDENTIAL DEVELOPMENT REQUIREMENTS

5.1.1 Standards for Grouped and Multiple Dwellings:-

(a) the local government shall not approve an application for development of three or more grouped or multiple dwellings that cannot be connected to a reticulated sewerage system;

(b) all grouped and multiple dwelling development comprising more than three dwelling units, shall include an area, or areas, for refuse storage located, designed and screened to the satisfaction of local government. Refuse storage areas shall be a minimum area of 0.5m^2 per dwelling unit and they shall be accessible from adjoining streets;

(c) each grouped and multiple dwelling unit shall be provided with one covered car parking space located behind the street setback and such cover shall be constructed of the same material as the dwelling or such other material as approved by local government; and

(d) each grouped and multiple dwelling shall have exclusive access to an enclosed and roofed storage area for each dwelling. Such storage areas shall have a minimum area of 4m^2 and a minimum dimension of 1.5 metres and shall be accessible from outside the dwelling.

5.1.2 Use of Land in Front Setback

(a) In a Residential Zone the land between the street alignment and the setback distance prescribed by the Scheme shall be used only for access driveways and gardens and the parking of cars, boats and caravans belonging to residents of the property.

(b) In a Residential Zone the local government may permit the land between the street alignment and the setback distance prescribed by the Scheme to be used for a swimming pool or car-port if it is satisfied that:-

(i) the streetscape will not be adversely affected; and

(ii) a traffic hazard will not result.

5.1.3 Multi Storey Residential Buildings

(a) The local government may, at its discretion, approve a development application for any building classified as a multiple dwelling, subject to conditions.

(b) All dwelling units in a Residential building must be contained under a common roof line unless the local government approves otherwise.

5.1.4 Additional Standards for Ancillary Dwelling in the Residential zones
AMD 117 GG 27/06/17

(a) The area of covered verandahs which are open on at least two sides is not to exceed 40m^2;

(b) The area of covered parking areas which are open on at least two sides is not to exceed 36m2;

(c) The building is to be of similar architectural style as the main dwelling, and constructed using similar materials and colours or as otherwise approved by Council.

5.2 SPECIAL RESIDENTIAL DEVELOPMENT REQUIREMENTS

5.2.1 Additional requirements or modifications specified in Schedule 3 apply to the areas zoned Special Residential described in that Schedule. Additional requirements specified in Planning Scheme No. 4 (Leschenault Parklands) apply to the area described in that Scheme.

5.2.2 The objective of a Special Residential Zone is to provide an intermediate zoning between Residential and Special Rural and the land use should be essentially residential in nature. No person shall use or permit to be used any lot or a part of any lot for the keeping or grazing of any animals or any other use which may adversely affect the vegetation on the lot concerned, or be likely to result in soil erosion, without local government approval.

5.2.3 Where in a Special Residential Zone the local government intends to permit horses or other livestock, the local government may seek the advice of the Department of Agriculture and any other person or authority and may impose conditions on a Development Approval to commence development to ensure that:-

(i) livestock is not kept on the land in excess of the capacity of the land to sustain that stocking rate;

(ii) soil erosion and dust nuisances do not arise; and

(iii) where necessary, tree planting and other remedial and preventative action is taken.

5.2.4 Notwithstanding Clauses 5.2.2 and 5.2.3 the local government may revoke approval to keep livestock on any Lot if, in its opinion, a nuisance is being caused by way of noise or dust, or degradation is occurring to the vegetation or soil on the Lot or any adjoining Lot.

5.2.5 Where a *"Special Residential'* zone has been approved subject to development being contained within designated building envelopes on each lot, no buildings or developments, including outbuildings shall be permitted to be erected outside the building envelope. *AMD 47 GG 8/2/02*

5.2.6 Notwithstanding the provisions of Clause 5.2.4, but subject to the provisions of Schedule 3, the local government may modify the size, shape or position of any building envelope on a lot provided it is satisfied that such action would result in less disturbance to existing vegetation on the lot and would not increase the exposure of any development from outside the lot.

5.2.7 Where in a Special Residential Zone a lot has been substantially denuded of natural vegetation the local government may require, as a condition of development, the planting and maintenance of one hundred (100) mature trees capable of growing to at least 3 metres in height per hectare of lot area. The planting shall be concentrated in a manner such that any buildings are best screened from the fronting streets and neighbouring houses.

5.2.8 On all lots other than open space no person shall remove any trees between the Road Reserve boundary and the building envelope.

5.2.9 No person shall remove any trees from their lot unless the prior written consent of local government is first obtained. For trees which have to be removed to make way for any boundary fire breaks, required under any Act or regulation, buildings and boundary fences, the prior written consent of local government shall be deemed to have been granted.

5.2.10 No sign, hoarding or billboard shall be permitted within a Special Residential Zone unless the local government considers it is a necessity provided that no sign so permitted shall have an area greater than one square metre and written local government approval has been obtained.

5.2.11 All buildings within the Scheme area shall have external walls constructed of brick unless in the opinion of the local government the design and materials of the proposed buildings are of a sufficiently high standard to complement and blend in with the environment of the area.

5.2.12 No boundary fences shall be constructed of the following materials:

- Fibro Cement
- Metal Sheeting
- Wooden Pickets

The minimum standard of boundary fencing shall be post and five strand wire, 1.0m to 1.3m high, or post and fabricated fence material, ring lock or similar.

5.2.13 local government may from time to time prepare land management plans in accordance with the Bush Fire Act or any other Act or Regulation and land owners shall be required to comply with the said management plan or any orders issued thereunder.

5.2.14 Save as may be provided for in Schedule 3, the local government shall not approve the construction of a dwelling on a Special Residential Lot unless it can be connected to a reticulated water supply system.

5.3 SPECIAL RURAL DEVELOPMENT REQUIREMENTS

The following provisions shall apply specifically to all land included in the Special Rural Zone in addition to any provisions which are more generally applicable to such land under this Scheme:

5.3.1 The objective of the Special Rural Zone is to select areas within the rural areas wherein closer subdivision will be permitted to provide for such uses as hobby farms, horse breeding and rural/residential retreats, and also to make provision for retention of the rural landscape and amenity in a manner consistent with the orderly and proper planning of such area.

5.3.2 The provisions for controlling subdivision, land uses and development relating to specific Special Rural Zones will be as laid down in Schedule 4 to the Scheme and future subdivision will accord with the Plan of Subdivision for the specified area referred to in the Schedule and such plan of subdivision shall form part of the Scheme.

5.3.3 Before making provisions for a Special Rural Zone local government will prepare, or require the owner(s) of the land to prepare a submission supporting the creation of the Special Rural Zone and such submission shall include:-

(i) a statement as to the purpose of intent for which the zone is being created;

(ii) the reasons for selecting the particular area the subject of the proposed zone with particular reference as to how this relates to the local government's Rural Planning Strategy and Policy Areas;

(iii) a plan or plans showing contours at such intervals as to adequately depict the land form of the area and physical features such as existing building, rock outcrops, trees or groups of trees, lakes, rivers, creeks, swamps, orchards, wells and significant improvements;

(iv) information regarding the method whereby it is proposed to provide a potable water supply to each lot;

(v) the proposed staging of the subdivision and development and the criteria to be met before successive stages are implemented.

(vi) Any additional information that the local government considers pertinent to the area or site.

5.3.4 The Scheme provisions for a specific Special Rural zone shall include a plan of subdivision showing:

(i) a subdivisional concept plan to be used as a guide to future subdivision; and

(ii) areas to be set aside for Public Open Space, pedestrian access-ways, horse trails, community facilities, etc. as may be considered appropriate.

(iii) the physical features it is intended to conserve.

(iv) the proposed staging of the subdivision.

5.3.5 In addition to the Plan of Subdivision, the Scheme provisions for a specific Special Rural Zone shall specify:-

(i) the facilities which the purchasers of the lots will be required to provide (eg their own potable water supply, liquid and solid waste disposal system, etc.);

(ii) proposals for the control of land uses and development which will ensure that the purpose of intent of the zone and the rural environment and amenities are not impaired; and

(iii) any special provisions appropriate to secure the objectives of the zone.

5.3.6 No more than one Dwelling and its associated Ancillary Dwelling and associated outbuildings shall be permitted per lot. *AMD 117 GG 27/06/17*

5.3.7 The use of second hand materials for visible structures shall be prohibited.

5.3.8 The local government may, by notice served upon individual landowners or upon a subdivider of land within this zone require the preservation of specified groups of trees and thereafter no landowner or subdivider shall cut, remove or otherwise destroy any group of trees so specified unless the local government rescinds the notice or order.

5.3.9 In addition to such other provisions of the Scheme as may affect it, any land which is included in a “Special Rural Zone” shall be subject to those provisions as may be specifically set out against it in Schedule 4 entitled “Additional Requirements – Special Rural Zone”.

5.3.10 Notwithstanding the provisions of the Scheme and what may be shown in the Plan of Subdivision specified in Schedule 4, local government may recommend a minor variation to the subdivisional design to the Western Australian Planning Commission.

5.4 HOME OCCUPATION

(a) An approval to carry on a Home Occupation:-

(i) shall be obtained from local government prior to the commencement of any use of land not expressly permitted within the Residential, Special Residential and Special Rural zones and which is incidental to the predominant use of the land for residential purposes. Such Home Occupation shall only be permitted while local government’s approval is current;

(ii) shall only be granted to an individual to operate from a specified site; and

(iii) cannot be transferred to another individual or site.

(b) If in the opinion of local government a Home Occupation, for which local government has granted approval, is causing a nuisance or annoyance to neighbours or to owners or occupiers of land within the neighbourhood the local government shall rescind the approval granted.

(c) Each application for an approval to carry on a Home Occupation shall be considered an application for development approval and shall be subject to the provisions of Part 2 of the Scheme and Parts 7, 8 and 9 of the Deemed Provisions.

5.5 OUTLINE PLANNING AREAS DEVELOPMENT REQUIREMENTS

AMD 116 GG 06/06/17

5.5.1 The subdivision or development of land within an O.P.A. is not permitted unless:

(a) a structure plan has been prepared and approved by the Local Government and the Western Australian Planning Commission in accordance with the requirements of Part 4 of the Deemed Provisions. *AMD 93 GG 23/9/11*

nor otherwise than in accordance with the requirements and provisions of the overall plan or the development Scheme as the case may be. An amendment report will be necessary if the land requires rezoning.

5.5.2 The provisions of Clause 5.5.1 do not apply to the following forms of subdivision or development:-

(a) a subdivision to effect a minor boundary adjustment;

(b) a subdivision to which section 25 of the Act applies relating to encroachments;

(c) the carrying out of development for a purpose of a use marked P in the Zoning and Development Table; or

(d) the erection of an outbuilding.

5.6 RESIDENTIAL DEVELOPMENT ZONE

AMD 98 GG 22/4/16

5.6.1 It is intended that land in this zone be progressively developed for residential purposes, and for commercial and other uses normally associated with residential development.

5.6.2 Prior to any subdivision or development in the 'Residential Development' zone, a Structure Plan is required to be prepared and approved in accordance with Part 4 of the Deemed Provisions. *AMD 93 GG 23/09/11*

5.6.3 The additional requirements or modifications to the provisions of the Zoning and Development Table specified in Schedule 16 apply to areas zoned Residential Development described in that Schedule.

PART VI – ADDITIONAL DEVELOPMENT REQUIREMENTS IN COMMERCIAL AND INDUSTRIAL ZONES

6.1 COMMERCIAL AND INDUSTRIAL DEVELOPMENT REQUIREMENTS

6.1.1 Access for loading and unloading vehicles:

(a) Unless the local government otherwise approves and subject to any conditions it imposes a person shall not develop any land or building within the Commercial, Industry or Special Use Zones, for any purpose unless there is provided a sealed and drained accessway for vehicles from a street to the land or building so that loading and unloading can take place off the street and vehicles may return to the street in forward gear.

(b) The accessway shall be not less than 4.5m in width but if the size of the lot makes the provision of an accessway of that width impracticable or unreasonable the local government may permit an accessway of a narrower width but in no case less than 3m in width.

(c) A sealed and drained area for loading and unloading being not less than 3.5m in width by 7m with a minimum height clearance of 3.5m shall also be provided.

6.1.2 Use of land in Front Setback

(a) On site areas of less than 4,000m^2 in the Commercial and Industry Zones, and in the Hotel and Service Station Zones, a person shall not develop the land between the street alignment and the setback distance prescribed by the Scheme except for one or more of the following:-

(i) an access driveway;

(ii) a parking area;

(iii) loading and unloading of vehicles;

(iv) a trade display, but not within 3m of the street alignment; or

(v) garden or other landscaping.

(b) On site areas of 4,000m^2 or more in the Commercial or Industry Zones, local government shall require as a condition of development that at least 10% of the site area be set aside and developed as landscaping and at least one half of the landscaped area shall be on the front and side margins of the site.

(c) local government may, by adopting the procedures of Clauses 62 and 63 Deemed Provisions "Application for Special Approval" reduce the front boundary setback in the Commercial zone by up to 50% provided that:-

(i) local government is satisfied that adequate off street parking is available at the side or rear of the proposed development and access to that parking can be obtained from the front street alignment;

(ii) traffic flow within the lot and on the adjoining road system will not be adversely affected;

(iii) such reduction will not prejudice the long-term co-ordinated development of the street, and

(iv) the design and proposed standard of finish of the proposed development is of sufficient quality to justify a reduction in setback requirements.

6.2 FACTORY UNIT REQUIREMENTS

(a) The floor area shall be a minimum of 100m^2, unless otherwise approved by local government.

(b) A minimum width or depth of six metres.

(c) There shall be appurtenant to each factory unit an area not less than 50m^2 for a storage yard.

(d) Each storage yard shall be separated from adjoining storage yards by a fence, and shall be screened from a public road by a closed screen fence or wall of not less than 1.8 metres in height.

(e) Each factory unit and storage yard shall have direct access onto a paved internal service road, and there shall be connecting vehicular access between each factory unit and its open yard.

(f) If a service road is situated between buildings, or between a building and boundary of the lot, it shall not be less than six metres in width. If a service road is situated between an open yard, or an open yard and a building of a side boundary, it shall not be less than 4.5 metres in width. In any event, the Building Code of Australia will prevail.

(g) All internal access roads shall be constructed to ensure that all vehicles can return to the road in a forward gear.

6.3 KEMERTON STRATEGIC INDUSTRIAL AREA

AMD 114 GG 04/07/17

(a) In addition to such other provisions of the Scheme as may affect it, land included within the Kemerton Strategic Industry zone, Kemerton Industry Buffer zone and Kemerton Ancillary Industry zone is identified as an area requiring a Structure Plan to be prepared prior to any future subdivision or development.

PART VII – ADDITIONAL DEVELOPMENT REQUIREMENTS IN RURAL ZONES

7.1 SCENIC ROADS VISUAL PROTECTION

(a) Local government may from time to time declare that certain roads of scenic value, shall be the subject of a building setback line either by specifying a distance or by marking in a plan certified by the Shire Clerk. Such a setback or building line shall apply in addition to the setback specified for the zone or use specified in the Zoning and Development Table.

The Building Line setbacks on the roads declared by local government as having scenic value are as per the following table and apply outside the Townsite boundaries only:-

1. Treendale Road
   50m both sides from its eastern junction with Raymond Road to its western junction with Raymond Road.

2. Raymond Road
   50m both sides from the Australind Bypass Road to the South West Highway.

3. Clifton Road
   80m both sides between Australind Bypass Road and the western edge of the Brunswick townsite.

4. Forestry Road
   80m both sides between Old Coast Road and Myalup Beach Road.

5. Myalup Beach Road
   80m both sides between Reading Road (Myalup) and Government Road.

6. Uduc Road
   80m both sides between Government Road and Fourth Street.

7. Johnston Road
   80m both sides between Logue Brook Drain and Northern Boundary of Shire.

8. Old Coast Road
   80m both sides between Northern Boundary of Shire and Australind Cemetery.

9. South Western Highway
   80m both sides between Northern Boundary and Southern Boundary of Shires excluding town sites.

10. Coalfields Highway
    80m both sides between South West Highway and Eastern Boundary of Shire.

11. Wellesley Road
    80m both sides on land within the Shire.

12. Australind Bypass
    80m both sides on land within the Shire.

13. Cathedral Avenue (otherwise known as Scenic Drive)
    The building line setback for Cathedral Avenue (known as Scenic Drive) be 200 metres where practicable and for narrower sections the setbacks be such that buildings are located at the base of the Leschenault Escarpment.

(b) Local government may from time to time declare building envelopes with respect to a particular lot or lots and where such a declaration is made, the building envelope(s) shall be marked on a plan and certified by the Shire Clerk and thereafter the building envelope(s) shall apply in lieu of the boundary setbacks that would otherwise have applied.

(c) Without prejudice to the provisions of Clause 7.1(a) where it can be demonstrated that the lot configuration prohibits a structure from being located behind the building lines declared by local government or where the proposed structure is to form part of an existing group or cluster of buildings local government may, by resolution passed by an absolute majority, grant development approval to the development subject to any conditions the local government thinks fit provided the structure is sited no closer to the front boundary than the setback specified for the zone.

(d) Where a building envelope has been established on a lot and that building envelope is no longer appropriate, notwithstanding anything herein contained, local government may establish an alternate building envelope in accordance with Clause 7.1(b) of the Scheme.

(e) Within the building setback lines specified in Clause 7.1(a) no public sign, advertisement, hoarding or notice shall be erected unless written approval has been granted by local government.

(f) Local government shall not approve the erection of any advertisement for a service or commodity which is not produced, offered or sold on the Lot on which the advertisement is proposed to be erected.

(g) Approval for a sign shall be limited to six months unless the local government specifies otherwise.

(h) Local government, in its absolute discretion, may refuse, limit or otherwise restrict or impose conditions governing the manner of operations of any extractive industry within the building setback lines specified in Clause 7.1(a).

(i) Before granting approval under Clause 7.1(h) the local government shall by negotiation approve a restoration programme for worked sections of the excavations and shall ensure satisfactory financial guarantees are lodged with the local government to ensure that such restoration work is implemented.

7.2 DEVELOPMENT NEAR COAST AND SHORES

Without limiting the intent of Clause 7.1, any major development proposal within 200 metres of a shoreline of the Leschenault Estuary , Lake Preston, Collie, Brunswick, Harvey Rivers, Harvey Weir, Logue Brook Dam, Stirling Dam, Wellesley River, downstream of Mitchell Road, other than on land zoned “Residential”, will be referred to the Department of Conservation and Land Management, Water & Rivers Commission, the Leschenault Inlet Management Authority or Peel Inlet Management Authority, where considered appropriate by local government, for comment and recommendation prior to determination by local government. *AMD 47 GG 8/2/02*

In the event of a dispute as to the position of the winter flood line the decision of the local government acting on the advice of the Water Authority of Western Australia shall be final.

7.3 COLLIE AND BRUNSWICK RIVER FLOOD STUDY

A person shall not commence or carry out any development, without the prior consent of local government, including, but without limiting the generality of that expression, excavation, filling or planting or removal of vegetation unless the proposed finished levels are in accordance with the Collie and Brunswick River Flood Study as released by the Water Authority of Western Australia in September, 1981, and adopted by local government on 14th February, 1989.

7.4 PRECINCT BOUNDARY

In considering any application for development, rezoning or subdivision in the rural areas of the Shire, local government shall be guided by the various Precinct Boundary Statements, as outlined in Schedule 12.

7.5 PEEL HARVEY COASTAL PLAIN CATCHMENT – STATEMENT OF PLANNING POLICY NO. 2

7.5.1 For the purposes of this Scheme the Peel-Harvey Coastal Plain Catchment means the Peel Harvey Coastal Plain Catchment as set out in Western Australian Planning Commission Statement of Planning Policy No. 2, together with any amendments thereto.

7.5.2 Local government shall abide by the objectives and Policy Statements contained in the Draft Environmental Protection Policy (Peel-Harvey Estuarine System) 1992 and the Peel-Harvey Coastal Plain Catchment Statement of Planning Policy, as amended, a copy of which shall be kept and made available for public inspection at the offices of the local government.

7.5.3 For the purposes of the definition of development under the Act "Intensive Farming" shall be deemed to be a material change of use requiring the approval of local government.

7.5.4 In considering a proposal to develop land for Intensive Farming the local government shall:-

(i) Take account of soil types, slope and groundwater flows and surface water drainage and proximity to the estuary;

(ii) Take account of the objectives of the Peel-Harvey Coastal Plain Catchment Statement of Planning Policy, as amended, with respect to the potential impact of the proposal on the environment and water quality; and

(iii) Seek advice from Agriculture Western Australia and the Department of Environmental Protection and take account of that advice in making its determination or defer the decision pending a formal assessment under Part IV of the Environmental Protection Act.

7.6 SWAN COASTAL PLAIN LAKES POLICY

7.6.1 The Environmental Protection (Swan Coastal Plain Lakes) Policy (1992) nominated a number of lakes/wetlands which are to be afforded the highest level of environmental protection. A number of those wetlands are found within the Shire of Harvey.

7.6.2 Any development proposal forwarded to local government which may cause adverse impacts on an Environmental Protection Policy wetland, as identified in the Policy, shall be determined by local government, in accordance with the requirements and objectives of the Policy.

7.7 DEVELOPMENT STANDARDS FOR A CARETAKER'S DWELLING

AMD 117 GG 27/06/17

7.7.1 The purpose of a Caretaker's Dwelling is to ensure that the development is used for the genuine purpose of supporting a rural land use activity and does not compromise the rural function of the property.

7.7.2 Caretaker's Dwelling developments will be considered in the General Farming and Intensive Farming zones subject to compliance with the following requirements:

(a) A second dwelling will only be considered where the subject lot complies with the minimum lot size as specified under District Planning Scheme No. 1 for that zone;

(b) Any application must clearly state the agricultural use of the property for which the second dwelling is proposed, outlining the nature and scale of the operation, and providing justification for the need for a second dwelling. Council Staff may conduct a site inspection to confirm that the property is being used for the stated purpose;

(c) Notwithstanding development approval being obtained for a Caretaker's Dwelling on a lot this shall not be regarded by the local government or the Western Australian Planning Commission as justification for support for the subdivision of the land;

(d) The dwellings should be clustered in one location to minimise constraints on the land and surrounding land uses;

(e) All services to the dwellings from the lot boundary (including access roads) are to be shared where practicable;

(f) The location of the second dwelling in relation to access, visibility from the road, and general impact on the rural landscape will be required to be justified by the applicant;

(g) Council will require that a Section 70A Notice be placed on the Certificate of Title, at the applicant's cost, prior to the issue of a building permit. Such notice is to advise prospective purchasers that the second dwelling is to be used for the purpose of farm accommodation only.

PART VIII – GENERAL DEVELOPMENT REQUIREMENTS

AMD 116 GG 06/06/17

The following requirements are applicable in all zones.

8.1 PLACES OF LANDSCAPE VALUE - DEVELOPMENT REQUIREMENTS

8.1.1 The places and buildings described in Schedule 1 and situated on the lands shown as a Place of Landscape Value on the Scheme Maps are considered by the local government to be of scenic or other value and should be retained in their present state, or restored to their original state, or to a state acceptable to the local government.

AMD 98 GG 22/4/16

Specific policies relating to Places of Landscape Value are outlined in Schedule 2.

8.1.2 A person shall not without the special approval of the local government at or on a place of landscape value carry out any development including, but without limiting the generality of the foregoing:

(a) the erection, demolition or alteration of any building or structure (not including farm fencing, wells, bores or troughs and minor drainage works ancillary to the general rural pursuits of the locality);

(b) the removal of trees associated with established buildings; *AMD 98 GG 22/4/16*

(c) the erection of advertising signs; and

(d) the clearing of native vegetation. *AMD 98 GG 22/4/16*

8.1.3 The provisions of Clause 64 of the Deemed Provisions apply with the necessary modifications to applications for the special approval of the local government

8.1.4 Subdivision proposals within Places of Landscape Value should reflect the high quality rural landscape of the area and lots less than 40ha in area would not be supported by local government.

8.2 CAR PARKING REQUIREMENTS

(a) The car parking requirements for each zone and each use are set out in the Zoning and Development Table.

(b) Subject to the provisions of this clause the car parking requirements shall be provided on the site which is the subject of the proposed development or with the approval of the local government in the immediate vicinity thereof.

(c) Each parking space shall be not less than the dimensions shown in Schedule 9 for the type of parking layout adopted.

(d) All parking spaces and all necessary accessways shall, unless the local government agrees otherwise and except as hereinafter provided, be sealed, drained, and kerbed.

(e) Where the dimensions for an open car parking area exceed 20m in length or width, one parking space in every ten shall be used for garden and planting of native plants and trees to provide visual relief, those parking spaces shall be included in calculations as car parking and not as landscaping.

For the purpose of this Clause any open display area in car sales premises or in premises used in the display and sale of boats or industrial or agricultural plant or machinery are deemed to be Open Car Parking Areas.

(f) Where the owner demonstrates to the satisfaction of the local government that there is not the demand for the number of parking spaces specified in the Zoning and Development Table, the local government may permit the owner to provide landscaping in lieu of parking spaces not constructed and the landscaping shall be included in calculations as car parking but not as landscaping.

(g) When considering an application for development approval the local government shall have regard to and may impose conditions in respect of the location and design of the required carparking spaces, the planting of native trees and shrubs and pedestrian spaces on the lot; and in particular, but without limiting the generality of the foregoing, the local government shall take into account and may impose conditions concerning:

(i) the proportion of parking spaces to be roofed or covered;

(ii) the proportion of parking spaces to be below natural ground level;

(iii) the means of access to each parking space and the adequacy of any vehicular manoeuvring area;

(iv) the location of parking spaces on the lot and their effect on the amenity of adjoining properties, including the potential affect if those spaces should later be roofed or covered;

(v) the extent to which parking spaces are located within required setback area;

(vi) the location or proposed location of footpaths and vehicular crossings and the effect on pedestrian and vehicular traffic movement and safety;

(vii) the practical possibility of adjoining land uses with different trading hours sharing the car parking requirements.

(h) In Commercial and Special Use Zones, where a developer can satisfy the local government that the minimum car parking requirements cannot be provided on the site the local government may accept a cash payment in lieu of the provision of car parking spaces but subject to the requirements of this clause:

(i) a cash-in-lieu payment shall be not less than the estimated cost to the owner of providing the land and constructing the parking spaces required by the Scheme. The value of that area of his land which would have been occupied by the parking spaces may be stated by the Valuer General or by a licensed valuer appointed by local government;

(ii) before the local government agrees to accept a cash payment in lieu of the provision of parking spaces, the local government must either have already provided a public car park area nearby within a period of not more than eighteen months from the time of agreeing to accept the cash payment; and

(iii) payments made under this clause shall be paid into a special fund to be used to provide public car parks.

8.3 PARKING OF COMMERCIAL VEHICLES

No commercial vehicle in excess of three tones tare weight shall be permitted on any residential lot without approval of the local government except for the purpose of delivery or loading normally associated with domestic uses.

8.3.1 The local government shall not grant approval unless:

(a) provision is made for the vehicle to be housed in a garage or parked behind the building line;

(b) the vehicle together with its load does not exceed three metres in height; and

(c) in the local government's opinion the parking of the vehicle will not prejudicially affect the amenity of the neighbourhood due to the emission of light, noise, vibration, smell, fumes, smoke or dust.

8.3.2 Where the local government grants its consent pursuant to Clause 8.3, such consent shall be on an annual basis renewable at the local government's discretion and the local government shall not renew its consent if the parking of the vehicle in question a:

(a) is causing a nuisance or annoyance to the owners or occupiers of land in the neighbourhood; or

(b) does not comply with the provisions of Clause 8.3.1.

8.3.3 Where the local government revokes its approval or decides not to renew its consent for the parking of such a vehicle on a residential lot, no person shall park a vehicle in excess of three tones tare weight on the subject land without the approval of the local government.

8.4 LANDSCAPING

(a) The landscaping requirement shown in the Zoning and Development Table or referred to in the Scheme means an open area designed, developed and maintained as garden planting and areas for pedestrian use and, at the discretion of the local government, it may include bushland, swimming pools and areas under covered ways but recreational buildings, amenity buildings, garbage collection and handling spaces and other open storage areas shall not be included.

(b) Access driveways between a street alignment and a building may be included in the landscaping requirement but otherwise car parking areas and driveways shall not be included.

(c) The local government may in a landscaped area restrict the use of concrete, gravel, pebble and other hard materials and require the planting of native trees, shrubs, lawns or other cover that require little maintenance.

(d) Where a proposed development utilises less than fifty percent of the allowable plot ratio, the local government may reduce the landscaping requirement, but the landscaping requirement shall be required proportionately as subsequent development occurs.

(e) A requirement of the landscaping is that one tree capable of growing to a height of am or more shall be planted for every l0m^2 of landscaped area but this requirement does not apply in the case of residential land use.

8.5 BATTLE-AXE LOTS

In the application of the Zoning and Development Table to battle-axe lots the following standards apply:

(a) the requirements of plot ratio and site coverage and other site requirements shall be applied to the area as calculated in accordance with paragraph (b) hereof;

(b) the setback requirements of the Table shall be applied according to the direction in which the dwelling faces or in such other direction as is agreed between the local government and the owner.

8.6 DEVELOPMENT OF LOTS WITH MORE THAN ONE STREET FRONTAGE

Where development is proposed on a lot which has more than one street frontage, the local government shall decide if a dispute arises which street (if any) is the street frontage for the purposes of the Zoning and Development Table and the other provisions of the Scheme.

8.7 GENERAL APPEARANCE OF BUILDINGS

Local government will not permit the erection of a building which by virtue of colour or type of materials, architectural style, height or bulk, ornamental or general appearance has an exterior design which is out of harmony with existing buildings or the landscape character of the area.

8.8 EXCAVATION AND FILLING OF LAND

Unless otherwise approved by local government, no person shall permit the ground level of any portion of a lot to be altered by a height exceeding 1.5 metres. In considering an application to change the level of a lot, local government shall have regard to:-

(a) its likely impact on the amenity or appearance of the land immediately surrounding the proposed retention;

(b) the suitability of the method of retention proposed;

(c) the materials, shape, height or proximity of the retention to, and its likely effect on the outlook from, surrounding land;

(d) the effect on the usability of the land on which the retention is proposed; and

(e) any flood plain studies and management strategies applicable to that area.

8.9 CONTROL OF ADVERTISING

AMD 116 GG 06/06/17

8.9.1 For the purpose of this Scheme, the erection, placement and display of advertisements and the use of land or buildings for that purpose is development within the definition of the Act requiring, except as otherwise provided in Clause 8.9.3, the prior approval of the local government. Such development approval is required in addition to any licence pursuant to local government's Signs and Hoarding and Bill Posting By-laws.

8.9.2 Existing Advertisements

Advertisement which:

(i) were lawfully erected, placed or displayed prior to the approval of this Scheme, or

(ii) may be erected, placed or displayed pursuant to a licence or other approval granted by the local government prior to the approval of this Scheme, hereinafter in this part referred to as "existing advertisements", may, except as otherwise provided, continue to be displayed or be erected and displayed in accordance with the licence or approval as appropriate.

8.9.3 Exemptions from the Requirement to Obtain Consent

AMD 98 GG 22/4/16

Subject to the provisions of the Main Roads (Control of Signs) Regulations 1983 and notwithstanding the provisions of Clause 8.9.1, the local government's prior consent is not required in respect of those advertisements listed in Schedule 16 which for the purpose of this Part are referred to as "exempted advertisements" and a sign that stands alone and is under 4m^2 in area. The exemptions listed in Schedule 16 do not apply to places, buildings, or places of landscape value which are either:

(a) Listed on the Register of Places under the *Heritage of Western Australia Act 1990*;

(b) Listed on the Shire's Heritage List;

(c) Contained within a designated Heritage Area in accordance with Clause 9 of the Deemed Provisions; and

(d) Listed in Schedule 1 *Places of Landscape Value*

8.9.4 Discontinuance

Notwithstanding the Scheme objectives and Clause 8.9.3, where the local government can demonstrate exceptional circumstances which cause an exempted or existing advertisement to seriously conflict with the objectives of this part, it may by notice in writing (giving clear reasons) require the advertiser to remove, relocate, adapt, or otherwise modify the advertisement within a period of time specified in the notice.

8.9.5 Derelict or Poorly Maintained Signs

Where, in the opinion of the local government, an advertisement has been permitted to deteriorate to a point where it conflicts with the objectives of the Scheme or it ceases to be effective for the purpose for which it was erected or displayed, local government may by notice in writing require the advertiser to:

(i) repair, repaint or otherwise restore the advertisement to a standard specified by local government in the notice; or

(ii) remove the advertisement.

8.9.6 Notices

(a) The advertiser shall be interpreted as anyone or any group comprised of the landowner, occupier or licensee; and

(b) Any notice served in exceptional circumstances pursuant to Clause 8.9.4 or pursuant to Clause 8.9.5 shall be served upon the advertiser and shall specify:

(i) the advertisement(s) the subject of the notice;

(ii) full details of the action or alternative course of action to be taken by the advertiser to comply with the notice; and

(iii) the period, not being less than sixty days, within which the action specified shall be completed by the advertiser.

(c) Any person upon whom a Notice is served pursuant to this Part may, within a period of sixty days from the date of the Notice, appeal to the Hon. Minister for Planning or the Town Planning Appeal Tribunal in accordance with Part 5 of the Act, and where any such appeal is lodged the effect of the Notice shall be suspended until the decision to uphold, quash or vary the notice is known and shall thereafter have effect according to that decision.

8.9.7 Scheme to Prevail

Where the provisions of this Part are found to be at variance with the provisions of the local government's Signs, Hoarding and Bill Posting By-laws, the provisions of the Scheme shall prevail.

8.10 RELOCATED DWELLINGS

8.10.1 A relocated dwelling may not be transported to and placed on a lot within the District and thereafter occupied as a residential dwelling (whether in whole or in part) except with the approval of local government and in accordance with any conditions contained in such an approval.

8.10.2 In considering whether or not to grant approval for a relocated dwelling the local government shall have special regard to:

(i) the appearance and external materials of the dwelling, and any proposed alterations thereto;

(ii) the amenity of the locality;

(iii) the visual prominence of the site;

(iv) all applicable statutes, by-laws and regulations relating to dwelling houses applicable both to the relocated dwelling and the lot upon which it is to be located following transportation.

8.10.3 In granting an approval for a relocated dwelling the local government may impose conditions including conditions which:

(i) require the applicant or owner to obtain a special building licence in accordance with Section 399 of the Local Government Act; and/or

(ii) require the applicant or owner to provide a bond or bank guarantee to local government as surety for the completion of the relocated dwelling to a standard of presentation acceptable to local government within a specified time frame. Should local government require the provision of a bond, such monies so received shall be deposited in an Interest Bearing Trust Account and upon the satisfactory completion of the necessary works, such monies owing shall be refunded.

8.11 ALTERNATIVE EFFLUENT DISPOSAL SYSTEMS

8.11.1 Where there is no reticulated sewerage available, and in the opinion of local government, the Health Department of WA and the Department of Environmental Protection, the operation of septic tanks will not work satisfactorily, local government may require landowners to install alternative effluent disposal systems at the time of development, provided that the approval of the Health Department and the Department of Environmental Protection is given.

8.11.2 All new effluent disposal systems shall be of a type designed specifically to minimise nutrient discharge to the groundwater approved by the Department of Environmental Protection and the Health Department of Western Australia.

8.11.3 local government shall require owners of land utilising alternative effluent disposal systems to maintain the wastewater treatment and disposal system in accordance with the “Treatment of Sewerage and Disposal of Effluent and Liquid Waste Regulations”, produced by the Health Department of Western Australia.

8.11.4 Where local government requires the installation of alternative effluent disposal systems, the owner or subdivider of land shall make arrangements to the satisfaction of local government to inform prospective purchasers of the requirements of Clause 8.11.

8.12 EXTRACTIVE INDUSTRIES

AMD 9 GG 24/4/97; AMD 116 GG 06/06/17

8.12.1 A person shall not carry on an extractive industry on any land within the Shire of Harvey without first having obtained an Extractive Industry Licence and development approval from local government in the following manner:-

(a) Application for an Extractive Industry Licence is to be lodged in accordance with the requirements of local government’s Extractive Industry By-laws.

(b) Application for development approval to undertake an extractive industry shall be lodged in accordance with the provisions – Clause 8.12.2.

8.12.2 Unless otherwise specified by local government, all Applications for development approval regarding extractive industry proposals shall be accompanied by:-

(a) Four plans to a scale of not less than 1:500 showing:-

(i) Property location and adjoining public roads.

(ii) Existing and proposed land contours.

(iii) Existing vegetation.

(iv) Location and dimensions of proposed pit area.

(v) Distances from pit to boundaries and existing buildings.

(vi) Proposed access to property for cartage.

(vii) Location of nearest existing neighbouring residences.

(b) Four copies of an extraction programme containing details of the following:-

(i) The nature and estimated duration of the proposed excavation.

(ii) A schedule of estimated stages of the excavation programme and of the time periods within which it is proposed operations will be carried out.

(iii) Proposed cartage routes on public roads, access to the excavation site and the types of roads to be constructed.

(iv) Description of the method of excavation.

(v) Description of site drainage with detailed plans.

(vi) Description of the measures to be taken to minimise noise and dust nuisance, erosion, water course siltation, adverse visual impacts and dangers to the general public.

(vii) A comprehensive rehabilitation schedule, detailing the end use of the site, methods of rehabilitation and programme for completion of rehabilitation operations.

(c) A form of consent in writing from the owner of the excavation site to the application.

8.13 STANDARDS FOR ANCILLARY DWELLING DEVELOPMENT WHERE THE RESIDENTIAL DESIGN CODES DO NOT APPLY

AMD 117 GG 27/06/17

8.13.1 An Ancillary Dwelling will be considered on land zoned Special Residential, Residential Development, General Farming, Intensive Farming, Special Rural and Special Rural Landscape Protection subject to compliance with the following requirements:

(a) The maximum plot ratio area (total area of all floors) of the ancillary dwelling does not exceed 70m^2;

(b) The area of covered verandahs which are open on at least two sides is not to exceed 40m^2;

(c) The area of covered parking areas which are open on at least two sides is not to exceed 36m^2;

(d) The building is to be of similar architectural style as the dwelling, and constructed using similar materials and colours or as otherwise approved by Council;

(e) The application complies with the required boundary clearance and setbacks;

(f) A minimum of 1 car parking space is to be provided;

(g) The accommodation is in close proximity to the existing dwelling on the property, and is to share services with that dwelling (including access roads) unless otherwise approved; and

(h) Council will require that a Section 70A Notice be placed on the Certificate of Title, on land which is zoned special residential, general farming, intensive farming, special rural and special rural landscape protection at the owner's/applicant's cost, prior to the issue of a building permit. Such a notice is to advise prospective purchasers that the presence of an 'ancillary dwelling' will not be the basis for any subdivision application.

8.13.2 In addition to the above, an Ancillary Dwelling will only be considered on land zoned General Farming and Intensive Farming subject to compliance with the following requirements:

(a) The Ancillary Dwelling is only to be occupied by members of the same family as the occupiers of the main dwelling;

(b) Council will require that a Section 70A Notice be placed on the Certificate of Title, at the owner's/applicant's cost, prior to the issue of a building permit. Such a notice is to advise prospective purchasers that the 'ancillary dwelling' is only to be occupied by members of the same family as the occupiers of the main dwelling.

PART IX – NON-CONFORMING USES

9.1 NON-CONFORMING USE RIGHTS

No provision of the Scheme shall prevent:-

(a) the continued use of any land or building for the purpose for which it was being lawfully used at the time of coming into force of the Scheme; or

(b) the carrying out of any development thereon for which, immediately prior to that time, a permit or permits, lawfully required to authorise the development to be carried out, were duly obtained and are current.

9.2 EXTENSION OF NON-CONFORMING USE

A person shall not alter or extend a non-conforming use or erect alter or extend a building used in conjunction with a non-conforming use without first having applied for and obtained the development approval of the local government under the Scheme and unless in conformity with any other provisions and requirements contained in the Scheme, and the local government may require:-

(a) compliance with the requirements applicable to any zone in which the non-conforming use is carried on;

(b) compliance with the requirements applicable to the zone in which the non-conforming use would, subject to compliance with the other provisions of the Scheme, be permitted;

(c) compliance with any requirements applicable to the use class in which the non-conforming use is comprised, in any zone in which that use class is permitted; or

(d) compliance with any other requirements which the local government may specify for the purpose of securing the amenity, health or convenience of the area. In this regard the local government may waive any of the requirements of (a), (b) and (c) above if, in its opinion, a better development, within the meaning of this sub Clause, will result;

9.3 CHANGE OF NON-CONFORMING USE

Notwithstanding anything contained in the Zoning Table the local government may grant its development approval to the change of use of any land from a Non-Conforming use to another use if the proposed use is, in the opinion of the local government, less detrimental to the amenity of the locality than the Non-Conforming use and is, in the opinion of the local government, closer to the intended uses of the zone or reserve.

9.4 DISCONTINUANCE OF NON-CONFORMING USE

9.4.1 When a Non-conforming use of any land or building has been discontinued for a period of six months or more such land or building shall not thereafter be used otherwise than in conformity with the provisions of the Scheme.

9.4.2 The local government may affect the discontinuance of a Non-conforming use by the purchase of the affected property, or by the payment of compensation to the owner or the occupier or to both the owner and the occupier of that property, and may enter into an agreement with the owner for that purpose.

9.5 DESTRUCTION OF BUILDINGS

AMD 47 GG 8/2/02

If any building used for a non-conforming use is destroyed to 75% or more of its value, the building is not to be repaired, rebuilt, altered or added to for the purposes of being used for a non-conforming use or in a manner not permitted by the Scheme, except with the development approval of local government.

PART X – ADMINISTRATION

AMD 116 GG 06/06/17

10.1 OFFENCES

10.1.1 A person shall not erect, alter or add to or commence to erect, alter or add a building or use or change the use of any land, building or part of a building for any purpose:

(a) otherwise than in accordance with the provisions of the Scheme;

(b) unless all consents required by the Scheme have been granted and issued;

(c) unless all conditions imposed upon the grant and issue of any consent required by the Scheme have been and continue to be complied with; or

(d) unless all standards laid down and all requirements prescribed by the Scheme or determined by the local government pursuant to the Scheme with respect to that building or that use of that part have been and continue to be complied with.

10.1.2 A person who fails to comply with any of the provisions of the Scheme is guilty of an offence and without prejudice to any other remedy given herein is liable to the penalties prescribed by the Act.

10.2 ENFORCEMENT

10.2.1 A person shall not without written consent of the local government use a building or part of a building in respect of which the local government has granted development approval subject to conditions until all of those conditions have been complied with to the satisfaction of the local government.

10.2.2 Thirty day's written notice is hereby prescribed as the notice to be given pursuant to Section 10 of the Act before the local government exercises the powers conferred by that Section:

(a) to remove, pull down or alter any building or other work in the Scheme Area, which has been commenced or continued after the gazettal date and which is such as to contravene the Scheme, or in the erection or carrying out of which any provision of the Scheme has not been complied with; or

(b) to execute any work which it is the duty of any person to execute under the Scheme, in any case where it appears to the local government that delay in the execution of the work would prejudice the efficient operation of the Scheme, and any expenses incurred by the local government under Section 10(2) of the Act may be recovered from the person in default in a court of competent jurisdiction.

10.3 CLAIMS FOR COMPENSATION

Except where otherwise provided in the Scheme, the time limit for the making of claims for compensation pursuant to section 11(1) of the Act is six (6) months after the date of publication of the Scheme in the Government Gazette.

10.4 PRECINCT BOUNDARIES AND PRECINCT POLICY STATEMENTS

AMD 116 GG 06/06/17

10.4.1 Precinct Boundaries are defined in Schedule 12A.

10.4.2 When considering any amendment, structure plan, subdivision, development or other planning applications, the local government shall take into account the Policy Statements contained within Schedule 12 - Precinct Policy Statements, as applicable to the relevant Precinct.

TABLES - ZONING AND DEVELOPMENT STANDARDS

TABLE 1 – ZONING AND DEVELOPMENT STANDARDS

			ZONING AND DEVELOPMENT STANDARDS			SPECIAL RESIDENTIAL					
			POLICY STATEMENT Primarily single residential housing in a bushland atmosphere. Consistent with bushfire alleviation local government will encourage the retention of trees by condition of development. Proposals for associated activity will be considered on their basis of their nuisance. Outbuildings shall be of a high standard.								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Private Open Space	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3.			4,000m^2	40m	R2.5	20m	10m	5m	2 per dwelling unit		Clause 5.2 Applies Town Planning Scheme No. 4 applies in Leschenault Parklands
			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1	DWELLING	P									
2	VETERINARY CLINIC	SA							4 for 1 Vet 6 for 2 Vets		
3	HOME OCCUPATION	IP									
4	PUBLIC RECREATION AREAS NOT USED AT NIGHT	P									
5	COMMERCIAL AND PRIVATE STABLES	AA									Private and Commercial Stables will only be permitted in Warrawarrup on any lot in that area. Schedule 3 applies.
6	RESIDENTIAL BUILDING	AA	1 ha	60m					1.5 per bed	90%	Clause 5.2 applies.
7	PROFESSIONAL OFFICE	SA							2 bays per Consultant.		
8	CLUB PREMISES	SA							1 per 10 m^2 floor area available to patrons.		
9	RELOCATED DWELLING	AA									
10	BED & BREAKFAST ACCOMMODATION *AMD 47 GG 8/2/02*	AA							2 carparking bays per dwelling and one for each bedroom used for guests		
10	FAMILY DAY CARE *AMD 87 GG 19/1/10*	SA	At Local govern-ment's discretion		At Local government's discretion	At Local govern-ment's dis-cretion	At Local govern-ment's discretion	At Local govern-ment's discretion	At Local government's discretion		Local government Policy 15.13 applies

			ZONING AND DEVELOPMENT STANDARDS SPECIAL RESIDENTIAL (CONTINUED)								
			POLICY STATEMENT Primarily single residential housing in a bushland atmosphere. Consistent with bushfire alleviation local government will encourage the retention of trees by condition of development. Proposals for associated activity will be considered on their basis of their nuisance. Outbuildings shall be of a high standard.								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Private Open Space	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3			4,000m^2	40m	R2.5	20m	10m	5m	2 per dwelling unit		Clause 5.2 Applies Town Planning Scheme No. 4 applies in Leschenault Parklands
			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
11	ANCILLARY DWELLING *AMD 117 GG 27/06/17*	IP									

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 2 – ZONING AND DEVELOPMENT STANDARDS

			ZONING AND DEVELOPMENT STANDARDS RESIDENTIAL								
			POLICY STATEMENT Primarily single storey dwelling houses on separate lots. Uses reasonably associated with residential areas will be permitted by Local government only after consideration of the likely nuisance that such uses could create. The Residential Planning codes referred to in Clause 4.5 shall apply to residential development within this zone.								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
			550m^2		R15	6m	6m bav 1.5m min		2 per dwelling unit	As per R15	Front setbacks in existing subdivisions will be retained at 7.5m average, to protect the streetscape unless adjoining lots are vacant.
For an explanation of symbols refer to Clause 4.2.3											
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1	DWELLING WITH RETICULATED SEWER	P						As per R-Codes			
2	DWELLING WITHOUT RETICULATED SEWER	P	1000m^2		R10			As per R-Codes		R10	
3	TWO GROUPED DWELLINGS WITH RETICULATED SEWER *AMD 47 GG 8/2/02*	P	900m^2					As per R-Codes		R20	
4	TWO GROUPED DWELLINGS WITHOUT RETICULATED SEWER *AMD 47 GG 8/2/02*	P	1100m^2	22m				As per R-Codes		R15	
5	HOME OCCUPATION	IP									Clause 5.4 Applies
6	PUBLIC RECREATION NOT USED AT NIGHT	P									
7	PROFESSIONAL OFFICE	IP									
8	INFANT HEALTH CENTRE	SA									
9	CHILD CARE *AMD 87 GG 19/1/10*	SA	1000m^2			11m	7.5m	2.0m per storey	1 per 5 children	50%	
10	FAMILY DAY CARE *AMD 87 GG 19/1/10*	SA	At Local govern-ment's discretion		At Local government's discretion	At Local govern-ment's dis-cretion	At Local govern-ment's discretion	At Local govern-ment's discretion	At Local government's discretion	At Local govern-ment's discretion	Local government Policy 15.13 applies

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 3 – ZONING AND DEVELOPMENT STANDARDS

			ZONING AND DEVELOPMENT STANDARDS RESIDENTIAL (CONTINUED)								
			POLICY STATEMENT Primarily single storey dwelling houses on separate lots. Uses reasonably associated with residential areas will be permitted by Local government only after consideration of the likely nuisance that such uses could create. The Residential Planning codes referred to in Clause 4.5 shall apply to residential development within this zone.								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Landscap-ing	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3			550m^2		R15	6m	6m bav 1.5m min		2 per dwelling unit	As per R15	
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
10	PLACE OF PUBLIC WORSHIP	AA	2000m^2	30m		9m	7.5m	2.0 per storey	1 per 5 seats	20%	
11	AGED PERSONS DWELLINGS	AA	1000m^2		R30	R30	R30	As per R-Codes	R30	R30	
12	AGED PERSONS HOME	AA	2000m^2		R30	R30	R30		R30	R30	
13	CAR PARK	IP				2m	1m	1m			
14	GROUPED DWELLINGS	AA	900m^2		R30	R30	R30	As per R-Codes	R30	R30	
15	MULTIPLE DWELLINGS	AA	R50		R50	R50	R50	As per R-Codes	R50	R50	Clause 5.1 Applies
16	CLUB PREMISES	SA	2000m^2	30m		9m	9m	3.0m per storey	1 per 10m^2 patrons area		Reticulated sewerage connection required.
17	RESIDENTIAL BUILDING	AA	1600m^2	30m				1.5m per side per storey	1.5 per bed		
18	CONSULTING ROOMS	SA	1200m^2	30m					6 for 1 GP 10 for 2 GPs 4 for 1 DPC 6 for 2 DPC	30% (at least 10% on street frontage)	(GP - General Practitioner) (D - Dentist) (P - Physiotherapist) (C - Chiropractor)
19	RELOCATED DWELLING	AA									
	SHORT STAY							As per			A maximum of four (4) holiday

ZONING AND DEVELOPMENT STANDARDS RESIDENTIAL (CONTINUED)

POLICY STATEMENT

Primarily single storey dwelling houses on separate lots. Uses reasonably associated with residential areas will be permitted by Local government only after consideration of the likely nuisance that such uses could create. The Residential Planning codes referred to in Clause 4.5 shall apply to residential development within this zone.

DEVELOPMENT STANDARDS

For an explanation of symbols refer to Clause 4.2.3	Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Landscaping	OTHER REQUIREMENTS
				Front	Rear	Sides			
	550m^2		R15	6m	6m bav 1.5m min		2 per dwelling unit	As per R15	

LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
20	ACCOMMODATION *AMD 15 GG 8/8/97*	SA	900m^2		R30	R30	R30	R-Codes	R30	R30	accommodation units shall be permitted. Clause 6.1 applies.
21	DISPLAY HOME CENTRE *AMD 47 GG 8/2/02*	AA							Off street parking of 4 bays per display home		
22	BED & BREAKFAST ACCOMMODATION *AMD 47 GG 8/2/02*	SA							2 carparking bays per dwelling and one for each bedroom used for guests		
23	ANCILLARY DWELLING *AMD 117 GG 27/06/17*	P									

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 4 – ZONING AND DEVELOPMENT STANDARDS

			ZONING AND DEVELOPMENT STANDARDS RESIDENTIAL DEVELOPMENT								
			POLICY STATEMENT								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Landscap-ing	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3											
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1	DWELLING WITH RETICULATED SEWER	P						As per R-Codes			Local government shall require the submission of a Structure Plan for the whole area in accordance with clause 5.6 prior to determining any applications.
2	DWELLING WITHOUT RETICULATED SEWER	P	1000m^2		R10			As per R-Codes		R10	
3	GROUPED DWELLING WITH RETICULATED SEWER	P	900m^2					As per R-Codes		R20	
4	TWO GROUPED DWELLINGS WITHOUT RETICULATED SEWER	P	1100m^2					As per R-Codes		R15	
5	HOME OCCUPATION	IP									Clause 5.4 Applies
6	PUBLIC RECREATION NOT USED AT NIGHT	P									
7	PROFESSIONAL OFFICE	AP									
8	INFANT HEALTH CENTRE	SA									
9	CHILD CARE *AMD 87 GG 19/1/10*	SA	1000m^2			11m	7.5m	2.0m per storey	1 per 5 children	50%	
10	FAMILY DAY CARE	SA	At Local govern-ment's discretion		At Local government's discretion	At Local govern-ment's dis-cretion	At Local govern-ment's discretion	At Local govern-ment's discretion	At Local government's discretion	At Local govern-ment's dis-cretion	Local government Policy 15.13 applies

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 5 – ZONING AND DEVELOPMENT STANDARDS

			ZONING AND DEVELOPMENT STANDARDS RESIDENTIAL DEVELOPMENT (Cont'd)								
			POLICY STATEMENT								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Private Open Space	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3											
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
10	PLACE OF PUBLIC WORSHIP	SA	2000m^2	30m		9m	7.5m	2.0 per storey	1 per 5 seats	20%	
11	AGED PERSONS DWELLINGS	SA	1000m2		R30	R30	R30	As per R-Codes	R30	R30	
12	AGED PERSONS HOME	SA	2000m2		R30	R30	R30		R30	R30	
13	CAR PARK	P				2m	1m	1m			
14	GROUPED DWELLINGS	SA	900m2		R30	R30	R30	As per R-Codes	R30	R30	
15	MULTIPLE DWELLINGS	AA	R50		R50	R50	R50	As per R-Codes	R50	R50	Clause 5.1 Applies
16	CONSULTING ROOMS	SA	1200m^2	30m					6 for 1 GP 10 for 2 GPs 4 for 1 DPC 6 for 2 DPC	30% (at least 10% on street frontage)	(GP - General Practitioner) (D - Dentist) (P - Physiotherapist) (C - Chiropractor)
17	BANK	SA									
18	LAUNDROMAT	SA									
19	EATING HOUSE	SA									
20	KINDERGARTEN	SA									
21	LIBRARY	P									
22	MEDICAL CENTRE	SA									

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 6 – ZONING AND DEVELOPMENT STANDARDS

			ZONING AND DEVELOPMENT STANDARDS RESIDENTIAL DEVELOPMENT (Cont'd)								
			POLICY STATEMENT								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3											
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
23	OFFICE	SA									
24	SHOP	SA									
25	PLACE OF AMUSEMENT	SA									
26	PUBLIC AMUSEMENT	SA									
27	EDUCATION ESTABLISHMENT	P									
28	SERVICE STATION	SA									
29	TAVERN	SA									
30	SHORT STAY ACCOMMODATION *AMD 15 GG 8/8/97*	SA	900m^2		R30	R30	R30	As per R-Codes	R30	R30	A maximum of four (4) holiday accommodation units shall be permitted. Clause 5.1 applies.
31	DISPLAY HOME CENTRE *AMD 47 GG 8/2/02*	AA							Off street parking of 4 bays per display home		
32	BED & BREAKFAST ACCOMMODATION *AMD 47 GG 8/2/02*	SA							2 carparking bays per dwelling and one for each bedroom used for guests		
33	FAMILY DAY CARE	SA	At Local govern-ment's dis-cretion		At Local govern-ment's discretion	At Local govern-ment's dis-cretion	At Local govern-ment's discretion	At Local govern-ment's discretion	At Local government's discretion	At Local govern-ment's discretion	Local government Policy 15.13 applies
34	ANCILLARY DWELLING *AMD 117 GG 27/06/17*	IP									

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 7 – ZONING AND DEVELOPMENT STANDARDS

			ZONING AND DEVELOPMENT STANDARDS TOURIST								
			POLICY STATEMENT This Zone provides for a variety of holiday and tourist land uses. Areas currently zoned apply to existing tourist facilities and provide for their expansion. In locating new zones, Local government will take account of the effects of the likely uses on the surrounding built and natural environment.								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3			$5000m^2$	40m	N/A	AS PER LOCAL GOVT MODEL BELAYS RELATING TO CARAVAN PARKS, CAMPING GROUNDS AND HOLIDAY ACCOMMODATION			At Local government's discretion	At Local govern-ment's discretion	
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1	CARETAKER'S DWELLING	IP									
2	RESIDENTIAL BUILDINGS	AA	$1600m^2$	30m		7.5m	7.5m	1.5 each side per storey	1.5 per bed		
3	PRIVATE HOTEL	P	$2000m^2$			7.5m	7.5m	1.5 each side per storey	1.5 per bed		
4	MOTEL	P	$4000m^2$			7.5m	7.5m	3.0m side per storey	1.5 per unit		Motel By-Laws apply.
5	CARAVAN PARK	P	1.0 ha								(Categories 5, 6 & 7 shall be partly or wholly screened from public roads by vegetation or Local government).
6	CAMPING AREA	P									
7	CHALET	P									
8	EATING HOUSE	IP				9.0m			1 per 4 seats		
9	LICENSED RESTAURANT	AA							1 per 4 seats		
10	CAR PARK	IP									
11	PUBLIC RECREATION AREAS	P									

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 8 – ZONING AND DEVELOPMENT STANDARDS

ZONING AND DEVELOPMENT STANDARDS	TOURIST (CONTINUED)
POLICY STATEMENT This Zone provides for a variety of holiday and tourist land uses. Areas currently zoned apply to existing tourist facilities and provide for their expansion. In locating new zones, Local government will take account of the effects of the likely uses on the surrounding built and natural environment.	
DEVELOPMENT STANDARDS	

For an explanation of symbols refer to Clause 4.2.3

LAND USE CATEGORIES			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
			$5000m^2$	40m	N/A	AS PER LOCAL GOVT MODEL BELAYS RELATING TO CARAVAN PARKS, CAMPING GROUNDS AND HOLIDAY ACCOMMODATION			At Local government's discretion	At Local govern-ment's discretion	
NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.											
12	PRIVATE RECREATION	IP									
13	PLACE OF AMUSEMENT	IP									
14	CONVENIENCE STORE	IP							1 per $12.5m^2$ G.F.A.		
15	BOARDING HOUSE	P									

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 9 – ZONING AND DEVELOPMENT STANDARDS

ZONING AND DEVELOPMENT STANDARDS			SHOP								
POLICY STATEMENT Primarily retail shopping, but including associated uses. Overlap of parking standards will be considered where uses involve varied time periods. Local government shall require separate provision for staff parking where appropriate. The conversion of existing premises will be treated with discretion under the terms of Clause 4.4.											
DEVELOPMENT STANDARDS											
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3				6m	N/A	9m	Nil	Nil	1 per 15m^2 of Gross Floor Area	10% of Site	Refer to Clause 6.1 Rear & side setbacks to accord with Building Code of Australia
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1	SHOP	P									
2	LIQUOR STORE	P									
3	SERVICE PREMISES	AA									
4	BANK	P									
5	OFFICE	P							1 per 40m^2 GFA		
6	EATING HOUSE	P							1 per 4 seats		
7	CONSULTING ROOMS	P							4 per Consultant		
8	MEDICAL/DENTAL CLINIC	P							4 per Practitioner		
9	TAVERN (ATTACHED TO OTHER PREMISES)	P							1 per 3m^2 public area		Maximum public area 200m^2
10	FAST FOOD OUTLET	P	2000m^2	40m				3m each side	1 PER 9m^2 OF GFA		
11	PUBLIC AMUSEMENT	P									
12	PLACE OF AMUSEMENT	AA									
13	NIGHT CLUB	AA							1 per 4 seats		
14	DWELLING	IP							As per R-Code		

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 10 – ZONING AND DEVELOPMENT STANDARDS

ZONING AND DEVELOPMENT STANDARDS			SHOP (CONTINUED)								
POLICY STATEMENT Primarily retail shopping, but including associated uses. Overlap of parking standards will be considered where uses involve varied time periods. Local government shall require separate provision for staff parking where appropriate. The conversion of existing premises will be treated with discretion under the terms of Clause 4.4.											
DEVELOPMENT STANDARDS											
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3				6m	N/A	9m	Nil	Nil	1 per 15m^2 of Gross Floor Area	10% of Site	Refer to Clause 6.1 Rear & side setbacks to accord with Building Code of Australia
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
15	ART AND CRAFT STUDIO	P									
16	CHILD CARE *AMD 87 GG 19/1/10*	AA	1000m^2	20m				2m each side	1 per 5 children		
17	LIBRARY	P							1 per 50m^2 of GFA		
18	CAR PARK	IP				2.0m	2.0m	1.5 each side			
19	SHOWROOM	P							1 per 50m^2 of GFA		
20	AMUSEMENT PARLOUR										
21	BETTING AGENCY	P									
22	CAR/MARINE SALES PREMISES	AA							As determined by Local government		
23	CONSULTING ROOMS (GROUP)	P							6 for 1 GP 10 for 2 GPs 4 for 1D, PC 6 for 2D, PC		(GP - General Practitioner D - Dentist P - Physiotherapist C - Chiropractor)

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 11 – ZONING AND DEVELOPMENT STANDARDS

			ZONING AND DEVELOPMENT STANDARDS SHOP (CONTINUED)								
			POLICY STATEMENT Primarily retail shopping, but including associated uses. Overlap of parking standards will be considered where uses involve varied time periods. Local government shall require separate provision for staff parking where appropriate. The conversion of existing premises will be treated with discretion under the terms of Clause 4.4.								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3				6m	N/A	9m	Nil	Nil	1 per 15m^2 of Gross Floor Area	10% of Site	Refer to Clause 6.1 Rear & side setbacks to accord with Building Code of Australia
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
24	CIVIC USE	P									
25	CLUB PREMISES	AA	2000m^2	30		9m,	9m	3m per storey	1 per 10m^2 of patrons area		Reticulated sewerage connection required
26	FUNERAL PARLOUR	AA							As determined by Local government		
27	GARDEN CENTRE	P							As determined by Local government		
28	HEALTH CENTRE	AA							1 per 9m^2 of GFA		
29	VETERINARY CLINIC OR HOSPITAL	P							4 per Practitioner		

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 12 – ZONING AND DEVELOPMENT STANDARDS

For an explanation of symbols refer to Clause 4.2.3			ZONING AND DEVELOPMENT STANDARDS OFFICE POLICY STATEMENT Intended primarily for business and professional offices. DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
				18m	N/A	9m	In accordance with the Building Code of Australia		1 per 40m^2 GFA	10% of site	
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1	CARETAKER'S HOUSE	IP									
2	LICENSED RESTAURANT	AA		10m					1 per 4 seats		
3	OFFICE	P									
4	PROFESSIONAL OFFICE								See note		1 per 40m^2 GFA or 1 per 2 consultants, whichever gives greater number of bays
5	CONSULTING ROOM	P							4 per Consultant		
6	BANK	P							1 per 15m^2 of GFA		
7	CHILD CARE *AMD 87 GG 19/1/10*	SA	1000m^2	20m		7.5m			1 per 5 children		
8	LIBRARY	P									
9	MEDICAL/DENTAL CLINIC	P							5 Practitioner		
10	CAR PARK	IP				2.0m	2.0m	1.5 each side			

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 13 – ZONING AND DEVELOPMENT STANDARDS

			ZONING AND DEVELOPMENT STANDARDS OFFICE (CONTINUED)								
			POLICY STATEMENT Intended primarily for business and professional offices.								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3				18m	N/A	9m	In accordance with the Building Code of Australia		1 per 40m^2 GFA	10% of site	
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
11	SERVICE PREMISES	AA							1 per 15m^2 of GFA		
12	LUNCH BAR	P							1 per 15m^2 of GFA		
13	BETTING AGENCY	P							1 per 15m^2 of GFA		
14	CONSULTING ROOMS (GROUP)	P							6 for 1 GP 10 for 2 GP 4 for 1 DPC 6 for 2 DPC		(GP - General Practitioner D - Dentist P - Physiotherapist C – Chiropractor)

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 14 – ZONING AND DEVELOPMENT STANDARDS

ZONING AND DEVELOPMENT STANDARDS			OTHER COMMERCIAL – SHOWROOM								
POLICY STATEMENT Intended for the establishment of showroom type uses, which are inappropriate to the Shop Zone because of the larger land areas required, but are not suited to Industrial Zones.											
DEVELOPMENT STANDARDS											
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3			1000m^2	20m	N/A	9m	In accordance with the Building Code of Australia		1 space per 50m^2 display area GFA	10% of site	Clause 6.1
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1	CARETAKER'S HOUSE	IP									
2	OFFICE	AA							1 per 40m^2 GFA		
3	SHOWROOM	P									
4	TRADE DISPLAY	P									
5	WAREHOUSE	P									
6	CAR, BOAT, CARAVAN AND MACHINERY SALES	AA							As determined by Local government		
7	SERVICE STATION	AA	1500m^2	40m				3m each side			
8	ROAD HOUSE	AA	1500m^2	40m				3m each side			
9	FUNERAL PARLOUR	P									
10	NURSERY	P									
11	CAR PARK	IP				2m	2m	1.5 each side			

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 15 – ZONING AND DEVELOPMENT STANDARDS

For an explanation of symbols refer to Clause 4.2.3			ZONING AND DEVELOPMENT STANDARDS — OTHER COMMERCIAL – SHOWROOM (CONTINUED) POLICY STATEMENT Intended for the establishment of showroom type uses, which are inappropriate to the Shop Zone because of the larger land areas required, but are not suited to Industrial Zones. DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
			1000m^2	20m	N/A	9m	In accordance with the Building Code of Australia		1 space per 50m^2 display area GFA	10% of site	Clause 6.1
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
12	SERVICE PREMISES	AA							1 per 20m^2 GFA		
13	RECREATION (PUBLIC)	P									
14	PUBLIC AMUSEMENT	P									
15	GARDEN CENTRE	P									
16	HEALTH CENTRE	P									
17	PRIVATE RECREATION	AA							At Local government discretion		
18	BETTING AGENCY	AA									
19	CAR SALES PREMISES	P									
20	CONSULTING ROOMS	AA							6 for 1 GP 10 for 2 GP 4 for 1 DPC 6 for 2 DPC		
21	MEDICAL/DENTAL CLINIC	AA							5 per Practitioner		
22	MARKET	AA									

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 16 – ZONING AND DEVELOPMENT STANDARDS

ZONING AND DEVELOPMENT STANDARDS			LIGHT AND SERVICE INDUSTRY								
POLICY STATEMENT Primarily industry which will not affect the amenity of nearby areas through the emission of wastes and which do not require independent power sources. A relatively high standard of building I will be sought. Local government will co-ordinate the position of crossovers and landscaping on the street frontages of adjoining premises.											
DEVELOPMENT STANDARDS											
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3			1000m^2	20m	N/A	9m	In accordance with the Building Code of Australia		1 space per 50m^2 GFA	10% of site	Clause 6.1 Schedule 5 applies.
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1	LIGHT INDUSTRY	P									
2	SERVICE INDUSTRY	P									
3	SHOWROOM	P							1 per 50m^2 GFA		
4	TRADE DISPLAY	P									
5	WAREHOUSE	P							1 per 50m^2 GFA		
6	FUNERAL PARLOUR	P									
7	BUILDER'S YARD	P									
8	MOTOR VEHICLE REPAIR STATION	P									
9	CAR WASH	P									
10	NURSERY	P									
11	SERVICE STATION	AA	1500m^2	40m							
12	PUBLIC AMUSEMENT	P									
13	DRIVE IN CINEMA	AA							At Local government's discretion	3m wide strip on periphery	Screen face not to be visible to passing traffic. Access not to be via residential streets.

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 17 – ZONING AND DEVELOPMENT STANDARDS

			ZONING AND DEVELOPMENT STANDARDS LIGHT AND SERVICE INDUSTRY (CONTINUED)								
			POLICY STATEMENT Primarily industry which will not affect the amenity of nearby areas through the emission of wastes and which do not require independent power sources. A relatively high standard of building l will be sought. Local government will coordinate the position of crossovers and landscaping on the street frontages of adjoining premises.								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3			1000m^2	20m	N/A	9m	In accordance with the Building Code of Australia		1 space per 50m^2 GFA	10% of site	Clause 6.1 Schedule 5 applies.
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
15	CAR, BOAT, CARAVAN AND SALES PREMISES	P					7.5m		1 per 50m2 display area		
16	CARETAKER'S DWELLING	IP									
17	OFFICE	IP									
18	LAUNDRY	P									
19	TRANSPORT DEPOT	P									
20	CAR PARK	IP				2m	2m	1.5 each side			
21	SERVICE PREMISES	P							1 per 20m^2 GFA		
22	VETERINARY HOSPITAL	P									
23	HEALTH CENTRE	P									
24	LUNCH BAR	AA							1 per 15m^2 GFA		Clause 6.2
25	FACTORY UNIT BUILDING	P	2000m2						3 per unit or 1 bay per 50m^2		
26	RELOCATED DWELLING	AA									
27	PUBLIC WORSHIP PLACE OF *AMD 22 GG 5/12/97*	SA	1000m^2	20m					1 per five individual seats	15% of the site	Buildings should be designed to blend in with the existing or proposed development in the industrial area.

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 18 – ZONING AND DEVELOPMENT STANDARDS

			ZONING AND DEVELOPMENT STANDARDS GENERAL INDUSTRY								
			POLICY STATEMENT Primarily general manufacturing industry which, by reason of waste emission, noise, bulk, or other features, must be removed from and buffered from other urban activity.								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3			1000m^2	30m	N/A	9m	In accordance with the Building Code of Australia		1 per 100m^2 GFA	10% of site	Clause 6.1
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1	GENERAL INDUSTRY	P									
2	LIGHT INDUSTRY	P							1 per 50m^2 GFA		
3	SERVICE INDUSTRY	P									
4	SHOWROOM (NO RETAIL SALES)	P							1 per 50m^2 GFA		
5	MOTOR VEHICLE REPAIR STATION	P									
6	CAR WASH	P									
7	FUEL DEPOT	P									
8	DRY CLEANING PREMISES	P									
9	BUILDER'S YARD	P							1 per employee		
10	TRANSPORT DEPOT	P							1 per 2 employees		
11	WRECKING YARD	P									
12	VETERINARY HOSPITAL	AA							1 per 40m^2 GFA		
13	TRADE DISPLAY	IP									
14	CARETAKER'S DWELLING	IP									

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 19 – ZONING AND DEVELOPMENT STANDARDS (CONT'D)

			ZONING AND DEVELOPMENT STANDARDS GENERAL INDUSTRY (CONTINUED)								
			POLICY STATEMENT Primarily general manufacturing industry which, by reason of waste emission, noise, bulk, or other features, must be removed from and buffered from other urban activity.								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3			1000m^2	30m	N/A	9m	In accordance with the Building Code of Australia		1 per 100m^2 GFA	10% of site	Clause 6.1
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
15	OFFICE	IP							1 per 40m^2 GFA		
16	WAREHOUSE	IP									
17	CAR PARK	IP				2.0m	2.0m	1.5m each side			
18	PUBLIC AMUSEMENT	AA							At Local government's discretion		
19	PRIVATE RECREATION	AA							At Local government's discretion		
20	DRIVE IN THEATRE	P									
21	LUNCH BAR	AA							1 per 15m^2 GFA		
22	FACTORY UNIT BUILDING	P	2000m^2						3 per unit or per 50m^2		Clause 6.2
23	RELOCATED DWELLING	AA									
24	EXTRACTIVE INDUSTRY *AMD 9 GG 24/4/97*	SA									
25	PUBLIC WORSHIP PLACE OF *AMD 22 GG 5/12/97*	SA	1000m^2	20m					1 per five individual seats	15% of the site	Buildings should be designed to blend in with the existing or proposed development in the industrial area.

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 20 – ZONING AND DEVELOPMENT STANDARDS

ZONING AND DEVELOPMENT STANDARDS	KEMERTON STRATEGIC INDUSTRY	*AMD 114 GG 04/07/17*

POLICY STATEMENT

The area is to be developed as a strategic industrial estate within the Bunbury Region. The objective is to establish a strategic industrial park within which all industrial development adheres to an appropriate level of environmental and operational criteria, buffered by large areas of natural parkland and vegetated areas. *AMD 114 GG 04/07/17*

DEVELOPMENT STANDARDS

For an explanation of symbols refer to Clause 4.2.3	Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS *AMD 114 GG 04/07/17*
				Front	Rear	Sides			
	5ha	80m	N/A	20m	30m	10m each side	1 per 2 employees on-site	subject to Dev Plan	Local Government shall consult with the relevant State government or other relevant organisations, when assessing planning applications in the Kemerton Strategic Industry zone, to ensure the proposal does not conflict with the strategic intentions for industry and infrastructure development in the zone.
LAND USE CATEGORIES	NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1 NOXIOUS INDUSTRY *AMD 114 GG 04/07/17* AA									Development in this zone is subject to Clause 4.8 of the District Planning Scheme and the provisions of Part 1 of the adopted Kemerton Strategic Industrial Area Structure Plan (as amended).
2 HAZARDOUS INDUSTRY *AMD 114 GG 04/07/17* AA									
3 GAS MANUFACTURE AND STORAGE *AMD 114 GG 04/07/17* AA									
4 FUEL DEPOT *AMD 114 GG 04/07/17* AA						1 per 50m^2			
5 ELECTRICITY GENERATION *AMD 114 GG 04/07/17* AA									

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 21 – ZONING AND DEVELOPMENT STANDARDS

For an explanation of symbols refer to Clause 4.2.3

ZONING AND DEVELOPMENT STANDARDS	KEMERTON STRATEGIC INDUSTRY (CONTINUED)

POLICY STATEMENT

The area is to be developed as a strategic industrial estate within the Bunbury Region. The objective is to establish a strategic industrial park within which all industrial development adheres to an appropriate level of environmental and operational criteria, buffered by large areas of natural parkland and vegetated areas. *AMD 114 GG 04/07/17*

DEVELOPMENT STANDARDS

Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS *AMD 114 GG 04/07/17*
			Front	Rear	Sides			
5ha	80m	N/A	20m	30m	10m each side	1 per 2 employees on-site	subject to Dev Plan	Local Government shall consult with the relevant State government or other relevant organisations, when assessing planning applications in the Kemerton Strategic Industry zone, to ensure the proposal does not conflict with the strategic intentions for industry and infrastructure development in the zone.

LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
7	EXTRACTIVE INDUSTRY	SA									Development in this zone is subject to Clause 4.8 of the District Planning Scheme and the provisions of Part 1 of the adopted Kemerton Strategic Industrial Area Structure Plan (as amended).
8	PUBLIC UTILITY	AA									

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 22 – ZONING AND DEVELOPMENT STANDARDS

ZONING AND DEVELOPMENT STANDARDS	KEMERTON ANCILLARY INDUSTRY	*AMD 114 GG 04/07/17*

POLICY STATEMENT

Industry within this zone shall be ancillary to the heavy industry in the Kemerton Strategic Industry zone. Ancillary in this respect means that the proposed development must demonstrate that the major portion of the source material, finished product, or services provided are oriented within the Kemerton area. No industry, wholesale or retail directed t primarily service the wider community will be permitted.

DEVELOPMENT STANDARDS

For an explanation of symbols refer to Clause 4.2.3			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
			$2000m^2$	30m	0.5:1	11m	5m	5m each side	1 per $100m^2$ GFA	10% of site area	
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1	GENERAL INDUSTRY	AA							1 per $50m^2$ GFA		When considering applications for development within this zone, the Local government will have regard to the existing or proposed industry in the Kemerton Strategic Industry zone and only grant approval if it is satisfied that the proposed development is predominantly ancillary to, and is required to service, the Kemerton heavy industries.
2	LIGHT INDUSTRY	AA									
3	SERVICE INDUSTRY	AA									
4	MOTOR VEHICLE REPAIR STATION	AA							1 per $50m^2$ GFA		
5	CAR WASH	AA							1 per 2 employees		
6	FUEL DEPOT	AA							1 per $12.5m^2$ GFA		
7	BUILDER'S YARD	AA									
8	TRANSPORT DEPOT	AA									
9	TRADE DISPLAY	IP									
10	EXTRACTIVE INDUSTRY *AMD 9 24/4/97*	SA									

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 23 – ZONING AND DEVELOPMENT STANDARDS

For an explanation of symbols refer to Clause 4.2.3			ZONING AND DEVELOPMENT STANDARDS OTHER COMMUNITY POLICY STATEMENT Intended for a wide variety of institutional, community and recreational activity. Local government will seek high standards of architecture and landscaping. DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
			2000m^2	20m	N/A	11m	7.5m	2 per storey	At Local government's discretion	20% of site area	
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1	CHILD CARE *AMD 87 GG 19/1/10*	P	1000m^2						1 per 5 children		
2	PUBLIC LIBRARY	P							1 per 40m^2 GFA		
3	MUSEUM	P							1 per 40m GFA		
4	HOSPITAL	P	4000m^2	40m				5 per storey each side	1 per 2 beds		
5	NURSING HOME	P		40m				3 per storey each side	1 per 5 beds		
6	RESIDENTIAL BUILDING	P	1600m^2	30		7.5m		1.5 per storey each side	1.5 spaces per bed		
7	CEMETERY	P									
8	PUBLIC AMUSEMENT	P									
9	PUBLIC RECREATION	P									

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 24 – ZONING AND DEVELOPMENT STANDARDS

For an explanation of symbols refer to Clause 4.2.3			ZONING AND DEVELOPMENT STANDARDS OTHER COMMUNITY (CONTINUED) POLICY STATEMENT Intended for a wide variety of institutional, community and recreational activity. Local government will seek high standards of architecture and landscaping. DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
			2000m^2	20m	N/A	11m	7.5m	2 per storey	At Local government's discretion	20% of site area	
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
10	PLACE OF PUBLIC WORSHIP	P		30m					1 per 5 seats		
11	PRIVATE RECREATION	AA									
12	AGED PERSONS VILLAGE	P	0.5ha	40m		7.5m		1.5m each side per storey	0.5 per unit		
13	COMMUNITY HOME	P									
14	CIVIC BUILDING	P							1 per 40m^2 GFA		
15	CARETAKER'S HOUSE	IP									
16	MEDICAL CENTRE	AA							5 per practitioner		

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 25 – ZONING AND DEVELOPMENT STANDARDS

			ZONING AND DEVELOPMENT STANDARDS INTENSIVE FARMING								
			POLICY STATEMENT Local government has identified by zoning and intends to protect from inappropriate use the valuable irrigated farmland in the Scheme area.								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3			20ha	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Clause 1.6.1 applies
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1	DWELLING	P		30m		20m	20m	20m			
2	CARETAKER'S DWELLING	AA									
3	VITICULTURE/HORTICULTURE	AA	0.5ha	40m		7.5m					* Any intensive agriculture within the Peel-Harvey Catchment Area will need advice from the Department of Environmental Protection and the Department of Agriculture prior to a decision being made by Local government.
4	RURAL PURSUITS	AA									
5	PLANT NURSERY	AA							5 spaces		
6	RURAL INDUSTRY	AA									
7	FEEDING LOT	AA									
8	STOCK HOLDING/SALEYARDS	P									
9	BATTERY POULTRY KEEPING	AA									
10	WAYSIDE STALL	IP				6m			5 spaces		Minimum of 200m clear side distance along all roads adjoining site.
11	DOG KENNELS	AA									
12	PRIVATE STABLES	AA									
13	COMMERCIAL STABLES	AA									
14	PIGGERY	AA									
15	VETERINARY CLINIC	P							5 per practitioner		
16	ANCILLARY DWELLING *AMD 117 GG 27/06/17*	IP				20m	20m	20m			

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 26 – ZONING AND DEVELOPMENT STANDARDS

			ZONING AND DEVELOPMENT STANDARDS INTENSIVE FARMING (CONTINUED)								
			POLICY STATEMENT Local government has identified by zoning and intends to protect from inappropriate use the valuable irrigated farmland in the Scheme area.								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3			20ha	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Clause 1.6.1 applies
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
16	VETERINARY HOSPITAL	SA							1 per 40m^2 GFA		
17	ART & CRAFT STUDIO	AA							5 spaces		
18	COMMUNITY HOME	AA									* Any intensive agriculture within the Peel-Harvey Catchment Area will need advice from the Department of Environmental protection and the Department of Agriculture prior to a decision being made by Local government.
19	PRODUCE STORE	P									
20	DRIVE IN THEATRE	AA									
21	CATTERY	AA									
22	AQUACULTURE	AA									
23	RELOCATED DWELLING	AA									
	EATING HOUSE *AMD 4 GG 3/1/97*	SA							One (1) Bay per Four (4) seats		
24	EXTRACTIVE INDUSTRY *AMD 9 24/4/97*	SA									
25	SHORT STAY ACCOMMODATION *AMD 15 GG8/8/97*	SA	900m^2		R30	R30	R30	As per R-Codes	R30	R30	A maximum of four (4) holiday accommodation units shall be permitted. Clause 6.1 applies.

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 27 – ZONING AND DEVELOPMENT STANDARDS

			ZONING AND DEVELOPMENT STANDARDS GENERAL FARMING								
			POLICY STATEMENT Local government intends to encourage these areas to continue to be used for viable large scale farming activity. Local government will encourage and promote good farming, animal husbandry and soil conservation. Some limited tourist and recreational activity may be permitted where no adverse effect to the primary agricultural purpose of the zone will result.								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3			40ha	N/A	N/A	20m	N/A	N/A	N/A	N/A	Clause 1.6.1 applies
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1	RURAL PURSUIT	AA									* Any intensive agriculture within the Peel-Harvey Catchment Area will need advice from the Department of Environment Protection and the Department of Agriculture and this advice shall be taken into account prior to a decision being made by Local government.
2	DWELLING	P					20m	20m			
3	CARETAKER'S DWELLING	AA									
4	RESIDENTIAL BUILDING	AA	1600m^2	30m			7.5m	1.5 per side	1.5 spaces		
5	MOTEL	AA	4000m^2	40m			7.5m	3 per side per storey	1.5 spaces per bed		
6	CARAVAN PARK/CHALET PARK	AA	1 ha	40m					At Local government's discretion		
7	CAMPING AREA	AA	0.5ha	40m					At Local government's discretion		
8	CONSULTING ROOMS	AA							6 for 1 GP 10 for 2 GP 4 for 1 DPC 6 for 2 DPC		(GP - General Practitioner D - Dentist P - Physiotherapist C - Chiropractor
9	PRIVATE RECREATION	AA									

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 28 – ZONING AND DEVELOPMENT STANDARDS

			ZONING AND DEVELOPMENT STANDARDS GENERAL FARMING (CONTINUED)								
			POLICY STATEMENT Local government intends to encourage these areas to continue to be used for viable large scale farming activity. Local government will encourage and promote good farming, animal husbandry and soil conservation. Some limited tourist and recreational activity may be permitted where no adverse effect to the primary agricultural purpose of the zone will result.								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3			40ha	N/A	N/A	20m	N/A	N/A	N/A	N/A	Clause 1.6.1 applies
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
10	VITICULTURE/HORTICULTURE	AA									* Any intensive agriculture within the Peel-Harvey Catchment Area will need advice from the Department of Environment Protection and the Department of Agriculture and this advice shall be taken into account prior to a decision being made by Local government.
11	COMMERCIAL STABLES	AA									
12	DOG KENNELS/CATTERY	AA									
13	FORESTRY	AA									
14	RURAL INDUSTRY	AA									
15	EXTRACTIVE INDUSTRY *AMD 9 24/4/97*	SA									
16	ZOO	AA							At Local government's discretion		
17	HEALTH FARM	AA							At Local government's discretion		
18	WAYSIDE STALL	IP				6m			5 spaces		200m minimum clear sight distance required.
19	PUBLIC UTILITY	AA									
20	RESIDENTIAL BUILDING	SA	1600m^2	30m		20m	7.5m	.5 per side per storey	1.5 spaces per bed		
21	PUBLIC RECREATION	P									

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 29 – ZONING AND DEVELOPMENT STANDARDS

			ZONING AND DEVELOPMENT STANDARDS GENERAL FARMING (CONTINUED)								
			POLICY STATEMENT Local government intends to encourage these areas to continue to be used for viable large scale farming activity. Local government will encourage and promote good farming, animal husbandry and soil conservation. Some limited tourist and recreational activity may be permitted where no adverse effect to the primary agricultural purpose of the zone will result.								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Land-scaping	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3			40ha	N/A	N/A	20m	N/A	N/A	N/A	N/A	Clause 1.6.1 applies
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
22	PLANT NURSERY	AA							5 spaces		* Any intensive agriculture within the Peel-Harvey Catchment area will need advice from the Department of Environment Protection and the Department of Agriculture and this advice shall be taken into account prior to a decision being made by Local government.
23	STOCK HOLDING & SALEYARDS	AA									
24	PIGGERY	SA									
25	VETERINARY CLINIC	AA							4 per Practitioner		
26	VETERINARY HOSPITAL	AA									
27	PRIVATE STABLES	P									
28	ART AND CRAFT STUDIO	P							5 spaces		
29	PRODUCE STORE	P							5 spaces		
30	COMMUNITY HOME	AA							At Local government's discretion		
31	DRIVE IN THEATRE	AA									Access/parking to Local government's satisfaction.
32	BATTERY FARMING	AA									
33	AQUACULTURE	AA									
34	RELOCATED DWELLING	AA									
35	EATING HOUSE	SA									
36	TIMBER/SHELTER BELTS	P							1 bay per four seats		
37	SHORT STAY ACCOMMODATION *AMD 15 GG 8/8/97*	SA	900m^2		R30	R30	R30	As per R-Codes	R30	R30	A maximum of four (4) holiday accommodation units shall be permitted. Clause 6.1 applies.
38	BED & BREAKFAST ACCOMMODATION *AMD 47 GG 8/2/02*	AA							2 carparking bays per dwelling and one for each bedroom used for guests		
39	ANCILLARY DWELLING *AMD 117 GG 27/06/17*	IP					20m	20m			

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2.

TABLE 30 – ZONING AND DEVELOPMENT STANDARDS

			ZONING AND DEVELOPMENT STANDARDS FORESTRY								
			POLICY STATEMENT Primarily intended to protect the State Forest and reflect the objectives of the State Forests Department in their conservative and recreation policies as well as provide for the productive exploitation of the timber resource.								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Landscap -ing	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3			N/A	N/A	N/A	20m	N/A	N/A		N/A	
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1	DWELLING	P									
2	RESIDENTIAL BUILDING	AA	1600m^2	30			7.5m	1.5 per side per storey	1.5 spaces per bed		
3	CARAVAN/CHALET PARK	AA	1.0ha	40m					1.2 spaces per site		
4	SAWMILL	P									
5	TRANSPORT DEPOT	P									
6	FORESTRY	P									
7	NURSERY	P									
8	RURAL INDUSTRY	P									
9	HOTEL	SA	4000m2	40m			7.5m	3.0 per side per storey	1 per room plus 1 per 35m^2 public area		
10	EXTRACTIVE INDUSTRY	SA									
11	TIMBER/SHELTER BELT	P	3ha								Areas between 3 and 10 hectares and not greater than 20% of the total lot area.

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 31 – ZONING AND DEVELOPMENT STANDARDS

ZONING AND DEVELOPMENT STANDARDS	SPECIAL RURAL

POLICY STATEMENT It is the intention of Council to create a variety of opportunities for residential/hobby farm lifestyles. Council shall impose conditions to limit tree clearing, ensure that building design will preserve local amenity, ensure that animal stocking rates do not cause erosion. Council shall limit the number of buildings to one Dwelling, an Ancillary Dwelling and associated outbuildings per lot. *AMD 117 GG 27/06/17*

DEVELOPMENT STANDARDS

For an explanation of symbols refer to Clause 4.2.3	Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Landscap-ing	OTHER REQUIREMENTS
				Front	Rear	Sides			
	2ha (See Note 1)	40m	N/A	20m	20m	20m	N/A	N/A	1 Rural Strategy policies apply 2 Clause 5.3 applies 3 Schedule 4 applies

LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1	DWELLING	P									
2	FORESTRY	AA									
3	VITICULTURE/HORTICULTURE	AA									
4	PRIVATE STABLES	AA	4ha								
5	COMMERCIAL STABLES	AA									
6	DOG KENNEL	SA									
7	ART & CRAFT STUDIO	P									
8	PRIVATE RECREATION	AA									
9	PUBLIC RECREATION	P									
10	HOME OCCUPATION	AA									
11	NURSERY	AA									
12	RELOCATED DWELLING	AA									
13	RURAL PURSUIT *AMD 47 GG 8/2/02*	AA									
14	BED & BREAKFAST ACCOMMODATION *AMD 47 GG 8/2/02*	AA							2 carparking bays per dwelling and one for each bedroom used for guests		
		Note 1 – Where reticulated scheme water is provided to all lots the Local government may approve a minimum lot size of 1ha provided the natural vegetation at the time of subdivision is dense enough to screen houses from each other and outside the subdivision.									
15	FAMILY DAY CARE *AMD 87 GG 19/1/10*	SA	At Local govern-ment's discretion		At Local government's discretion	At Local govern-ment's dis-cretion	At Local govern-ment's dis-cretion	At Local govern-ment's discretion	At Local government's discretion	At Local govern-ment's discretion	Local government Policy 15.13 applies
16	ANCILLARY DWELLING *AMD 117 GG 27/06/17*	IP									

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2.

TABLE 32 – ZONING AND DEVELOPMENT STANDARDS

ZONING AND DEVELOPMENT STANDARDS	SPECIAL RURAL & LANDSCAPE PROTECTION

POLICY STATEMENT
Primarily rural development which will retain the scenic character of the area along Cathedral Avenue, to provide for a unique lifestyle, whilst minimising impacts on the estuary and its associated flora and fauna.

DEVELOPMENT STANDARDS

			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Landscap -ing	OTHER REQUIREMENTS
						Front	Rear	Sides			
			Refer to Policy Statements Policy Area 1	40m	N/A	In accordance with Schedule 4			N/A	N/A	Schedule 4 applies.
For an explanation of symbols refer to Clause 4.2.3											
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1	DWELLING	AA									Any development application will require special Local government approval.
2	HOME OCCUPATION	AA									
3	ART & CRAFT STUDIO	AA									
4	WAYSIDE STALL	AA									Minimum lot area 2ha south of Crimp Crescent and 5ha north of Crimp Crescent.
5	CONSULTING ROOMS	AA									
6	CARETAKER'S HOUSE	AA									
7	LODGING HOUSE/RESIDENTIAL BUILDING	SA									
8	HEALTH FARM	SA									
9	PRIVATE STABLES	AA									
10	BED & BREAKFAST ACCOMMODATION *AMD 47 GG 8/2/02*	AA							2 carparking bays per dwelling and one for each bedroom used for guests		
11	FAMILY DAY CARE *AMD 87 GG 19/1/10*	SA	At Local govern-ment's discretion		At Local government's discretion	At Local govern-ment's dis-cretion	At Local govern-ment's dis-cretion	At Local govern-ment's discretion	At Local government's discretion	At Local govern-ment's discretion	Local government Policy 15.13 applies
12	ANCILLARY DWELLING *AMD 117 GG 27/06/17*	IP									

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 33 – ZONING AND DEVELOPMENT STANDARDS

ZONING AND DEVELOPMENT STANDARDS	KEMERTON INDUSTRY BUFFER	*AMD 114 GG 04/07/17*

POLICY STATEMENT

The primary purpose of this zone is to serve as a low intensity use area between the Kemerton Strategic Industry and Ancillary Industrial zone and the surrounding land uses. No further residential or incompatible development shall take place in this zone and where possible public recreation and flora and fauna conservation shall be encouraged.

DEVELOPMENT STANDARDS

Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Landscap -ing	OTHER REQUIREMENTS
			Front	Rear	Sides			
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	When considering a development application with respect to land wholly or partly within the Kemerton Industry Buffer zone, the Local Government shall refer the proposal to the relevant State Government Agencies for comment. * Refer to Footnote. * Landholdings located within the Kemerton Industry Buffer zone are included within the Special Control Area No.2 of the Greater Bunbury Region Scheme. When preparing a development application applicants are required to satisfy the provisions of Part 5 and Part 7 – Applications for Planning Approval of the Greater Bunbury Region Scheme. *AMD 114 GG 04/07/17*

For an explanation of symbols refer to Clause 4.2.3

LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1	RURAL PURSUIT	SA									
2	RURAL INDUSTRY	SA									Local government will approve only those applications which do not detract from the primary purpose of the zone, and may specify such conditions as may be necessary to preserve the integrity of the zone.
3	FORESTRY	P									
4	SILVICULTURE	SA									
5	EXTRACTIVE INDUSTRY	SA									
6	RADIO TV INSTALLATION	SA									
7	PUBLIC UTILITY	AA									
8	STOCK HOLDINGS & SALE YARDS	SA									

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 34 – ZONING AND DEVELOPMENT STANDARDS

			ZONING AND DEVELOPMENT STANDARDS WETLAND PROTECTION								
			POLICY STATEMENT This area contains environmentally sensitive wetlands which are to be conserved. Uses within the zone must not impact detrimentally upon the wetland environment.								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Landscap -ing	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1	GRAZING	AA									Local government will approve only those applications which do not detract from the primary purpose of the zone, and may specify such conditions as may be necessary to preserve the integrity of the zone.

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 35 – ZONING AND DEVELOPMENT STANDARDS

ZONING AND DEVELOPMENT STANDARDS	HOTEL

POLICY STATEMENT
Hotels and taverns are basically commercial uses. Because of specific traffic and other nuisances associated with liquor outlets, specific zoning has been applied to maximise community involvement in their location.

DEVELOPMENT STANDARDS

For an explanation of symbols refer to Clause 4.2.3			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Landscap-ing	OTHER REQUIREMENTS
						Front	Rear	Sides			
				40m	N/A	20m	15m	10m per side per storey	1 per room plus 1 per $3m^2$ bar area	10%	
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1	HOTEL	P	1ha	50m	0.6				1 per room plus 1 per $35m^2$ public area		
2	TAVERN	P	4000m2		0.4				1 per $3m^2$ public area		
3	MOTEL	P	4000m2			7.5m	7.5m	3 per side per storey	1.5 spaces per unit		
4	LICENSED RESTAURANT	P		10m					1 per 4 seats	At Local govern-ments discretion	
5	NIGHT CLUB	P		20m					1 per $5m^2$ bar & lounge area		
6	SERVICE PREMISES	IP							1 per $15m^2$		
7	PUBLIC AMUSEMENT	IP							At Local government's discretion		
8	PLACE OF AMUSEMENT	IP									
9	LIQUOR STORE	IP							1 per $15m^2$		

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 36 – ZONING AND DEVELOPMENT STANDARDS

ZONING AND DEVELOPMENT STANDARDS	HOTEL (CONTINUED)

POLICY STATEMENT
Hotels and taverns are basically commercial uses. Because of specific traffic and other nuisances associated with liquor outlets, specific zoning has been applied to maximise community involvement in their location.

DEVELOPMENT STANDARDS

For an explanation of symbols refer to Clause 4.2.3			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Landscap -ing	OTHER REQUIREMENTS
						Front	Rear	Sides			
				40m	N/A	20m	15m	10m per side per storey	1 per room plus 1 per $3m^2$ bar area	10%	
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
10	CAR PARK	IP				2m	2m		1.5 each side		
11	CARETAKER'S HOUSE	IP									
12	LICENSED CLUB	P							1 per $5m^2$ bar & lounge area		
13	SHOP	SA				11m	7.5m		Nil		
14	BETTING AGENCY *AMD 85 GG 14/7/09*	AA	N/A	40m	N/A	20m	15m	10m per side per storey	At Local government's discretion	10%	Only permitted where the use is associated with an approved 'Hotel' and 'Tavern' use.

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

TABLE 37 – ZONING AND DEVELOPMENT STANDARDS

			ZONING AND DEVELOPMENT STANDARDS SERVICE STATION								
			POLICY STATEMENT It is Local government policy to encourage service stations to be developed in association with other commercial and industrial uses. Where this is not the case specific zoning will be required because of the traffic nuisance pertaining to particular sites.								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces	Minimum Landscap -ing	OTHER REQUIREMENTS
						Front	Rear	Sides			
For an explanation of symbols refer to Clause 4.2.3			1500m2	40m	N/A	11m	7.5m	3m each side	6	10%	
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the above standards will apply to this Zone.								
1	SERVICE STATION	P									
2	ROADHOUSE	P									
3	CAR WASH	AA									
4	SHOP AS PART OF SERVICE STATION	IP									
5	CARETAKER'S HOUSE	IP									
6	MOTOR REPAIR STATION	IP									
7	CAR PARK	AA				2m	2m	1.5 each side			
8	CAR, BOAT, CARAVAN AND MACHINERY SALES	AA						5 one side	1 per $20m^2$ display area		

Note: Minimum Lot Areas referred to in the above Zoning and Development Standards Table are not to be used as a guide for subdivision, as per Clause 4.2.2. *AMD 121 GG 18/1/19*

SCHEDULE A – SUPPLEMENTAL PROVISIONS

AMD 116 GG 06/06/17; AMD 117 GG 27/06/17

These provisions are to be read in conjunction with the deemed provisions for local planning schemes (Schedule 2) contained in the *Planning and Development (Local Planning Schemes) Regulations 2015*.

Clause 61 Development for which development approval not required

Clause 61 (1) Development approval of the local government is not required for the following works:

(k) the erection of a boundary fence except as otherwise required by the Scheme.

(l) the erection on a lot of a single dwelling or two grouped dwellings, including ancillary outbuildings, in a zone where the proposed use is designated with the symbol 'P' in the cross reference to that zone in the zoning table, provided that the proposed development is in accordance with the development requirements of this Scheme and the R-Codes.

(m) the carrying out of any works on, in, over or under a street or road by a Public Authority acting pursuant to the provisions of any Act.

(n) the carrying out of works urgently necessary in the public safety or for the safety of plant or equipment or for the maintenance of essential services.

(o) the erection on a lot of an ancillary outbuilding(s), external feature, boundary wall or fence, patio, and/or swimming pool on the same lot as a single dwelling, to which the R-Codes do not apply, provided that the proposed development is in accordance with the development requirements of this Scheme unless the development is located in a place that is:

(i) entered in the Register of Heritage Places under *the Heritage of Western Australia Act 1990*; or

(ii) the subject of an order under the *Heritage of Western Australia Act 1990* Part 6; or

(iii) included on a heritage list prepared in accordance with this Scheme; or

(iv) within an area designated under the Scheme as a heritage area; or

(v) the subject of a heritage agreement entered into under the *Heritage of Western Australia Act 1990* section 29.

SCHEDULE 1 - PLACES OF LANDSCAPE VALUE

AMD 98 GG 22/4/16

Clause 8.1 & Schedule 2 applies

CODE NO.	NAME OF PLACE	LOCATION	DESCRIPTION
1	Yarloop Bakery	Lot 45 – Corner South Western Highway and Yarloop-Hoffman Road (north east corner of intersection), Yarloop.	*DELETED BY AMD 98 GG 22/04/16*
2	Yarloop War Memorial	In railway reserve off Railway Parade on western side of street Millar's timber workshop.	*DELETED BY AMD 98 GG 22/04/16*
3	Timber Mill Workshop Complex	Wellington Loc. 897 Railway Parade on eastern side of street, south of Hospital Street, Yarloop.	*DELETED BY AMD 98 GG 22/04/16*
4	Moreton Bay Fig Tree at Uduc	Lot 4594 Myalup road – approximately 200m west of Field Road on northern side of road.	*DELETED BY AMD 98 GG 22/04/16*
5	Italian Prisoner of War Shrine	Lot 227 South Western Highway – adjacent to irrigation supply channel on eastern side of road, North Harvey.	*DELETED BY AMD 98 GG 22/04/16*
6	Stirling Memorial	On Reserve located between Baker Street and the Harvey River Diversion, north of King Street, Harvey.	*DELETED BY AMD 98 GG 22/04/16*
7	Harvey War Memorial Library	Lot Pt. 4 Young Street (five lots south of Gibbs Street on eastern side of street), Harvey.	*DELETED BY AMD 98 GG 22/04/16*
8	Harvey Town Hall	Lot 10 & Reserve 6108 Uduc Road, Harvey.	*DELETED BY AMD 98 GG 22/04/16*
9	"Jardup" Homestead	Loc. 172 off Harvey Quindanning Road, approximately 10km east of South Western Highway on northern side of road.	*DELETED BY AMD 98 GG 22/04/16*
10	"Bundidup" Homestead	A 22094 Wellington Loc. 4472 (Wokalup Research Station) off Mornington Road, approximately 1km east of South West Highway on northern side of road.	*DELETED BY AMD 98 GG 22/04/16*
11	"Runnymead" Homestead	Pt. Wellington Loc. 1, Lot 10 Runnymede Road approximately 2km east of Old Coast Road on northern side of road.	*DELETED BY AMD 98 GG 22/04/16*
12	"Springhill" Homestead	Lot 8 of Pt. Wellington Loc. 17 approximately 1.5km west of Old Coast Road from approximately 3.7km north of the Leschenault Inlet.	*DELETED BY AMD 98 GG 22/04/16*
13	"The Monastery"	Located off southern side of Wellesley Road, adjacent to eastern bank of the Wellesley River (approximately 7km north of Clifton Road).	*DELETED BY AMD 98 GG 22/04/16*
14	"White Rocks"	Located off eastern side of the South Western Highway, approximately 400m south of intersection with Partridge Road.	*DELETED BY AMD 98 GG 22/04/16*

SCHEDULE 1 – PLACES OF LANDSCAPE VALUE (CONTINUED)

AMD 98 GG 22/4/16

Clause 8.1 & Schedule 2 applies

CODE NO.	NAME OF PLACE	LOCATION	DESCRIPTION
~~15~~ L1	Cathedral Avenue	Scenic Drive along the eastern side of the Leschenault Inlet extending north from the Old Coast Road to Buffalo Road.	Avenue of paperbarks and other native trees lining an original section of the Old Coast Road.
16	"Alverstoke" Homestead	Lot 15 Clifton Road approximately 5km west of South Western Highway through Brunswick on northern side of road opposite junction with Alverstoke Road.	*DELETED BY AMD 98 GG 22/04/16*
17	Old State Farmhouse	Lot 18 Brunswick Estate off Wellesley Road approximately 0.5km north of Clifton Road on eastern side of road.	*DELETED BY AMD 98 GG 22/04/16*
18	Saint Peter's Church	Lot 10 South Western Highway (five lots south of Clifton Road on eastern side or road) Brunswick Junction.	*DELETED BY AMD 98 GG 22/04/16*
19	Australind Cemetery	7575 Old Coast Road (east side of road approximately 1.2km north of intersection with Koombana Road), Australind.	*DELETED BY AMD 98 GG 22/04/16*
20	Australind Memorial	9722 Loc. 4921 Old Coast Road (west side of road, approximately 100m south of Francis Street), Australind.	*DELETED BY AMD 98 GG 22/04/16*
21	"Upton" House Homestead	Lot 78 corner Upton Place and Carpenter Terrace (north-west corner of intersection), Australind.	*DELETED BY AMD 98 GG 22/04/16*
22	Saint Nicholas Anglican Church	Located on small lot on north side of Paris Road, approximately 1km east of Old Coast Road, Australind	*DELETED BY AMD 98 GG 22/04/16*
23	Henton Cottage	Located on small lot on south side of Paris Road, approximately 1km east of Old Coast Road, Australind.	*DELETED BY AMD 98 GG 22/04/16*
~~24~~ L2	Coastal Lakelands	That part of the Scheme Area between the Old Coast Road and the Indian Ocean including the area 200 metres east of Old Coast Road as depicted on the Scheme Map	An area of significant landscape value including Leschenault Estuary and the Indian Ocean coastline.
~~25~~ L3	Darling Range	That part of the Scheme Area generally between South Western Highway and the eastern boundary of the Shire as depicted on the Scheme Map.	An area of significant landscape value including the Darling Scarp and the Range plateau and valleys.
~~26~~ L4	Benger Swamp	West of the township of Benger and generally south of Mitchell Road.	A wetland of significant ecological value.
~~27~~ L5	La Porte Bird Rookery	South West corner of Leschenault Loc. 4 (Old Coast Road), Australind.	A natural swamp which is a breeding ground for White Egrets.

SCHEDULE 2 - POLICIES FOR PLACES OF LANDSCAPE VALUE

Clause 8.2 Applies

2.1 AREA 2 – COASTAL LAKELANDS

That part of the Scheme Area between the Old Coast Road and the Indian Ocean including the area 200 metres east of Old Coast Road as depicted on the Scheme Map.

2.1.1 The Local government at the appropriate time will undertake a detailed survey of all or part of the area to determine areas where recreation and holiday settlements might be established.

2.1.2 The Local government, at the appropriate time, will prepare design criteria for the recreation and holiday development forms it considers suitable for the area and will make the criteria available to intending developers.

2.1.3 In determining areas where development may occur or in considering proposals, the Local government will take account of the following criteria:

(i) areas with a higher capacity for development should be intensively developed and should attract users away from those areas less well equipped to absorb pressure of use;

(ii) Areas of particularly high wildlife potential should be as inaccessible as possible to the general public and should not be developed for human use;

(iii) areas surrounding development areas which in an undeveloped form have such high intrinsic landscape value that they will attract use, must be taken into account when designing the development area so that pressure of use does not destroy the character of the surrounding area;

(iv) areas with a low level of soil and or vegetation stability should be avoided;

(v) the Old Coast Road should be seen as a visual corridor and remain a tourist route and the Local government will not permit a roadhouse, within 20km of an existing development of that nature;

(vi) development areas must be of a physical character that new buildings and associated paraphernalia will be camouflaged by natural vegetation or topographic features. Standing timber should be retained whenever possible, so that only those trees directly and inevitably threatened by development may be removed with the consent of the Local government; and

(vii) where roads are needed to service areas of foreshore they should approach at right angles orientated away from the prevailing winds and located along the base of dunes and meet the foreshore at places suitably equipped to absorb the intensified pressure of use. Roads should not run parallel or adjacent to foreshores.

The standard of access road should be commensurate with the activity potential of the area and the ultimate size of the settlement.

Penetration of the countryside by the motor car should be restricted and minimised. Clearly developments have to be serviced, but the main design criteria must be the landscape, and not the engineering ideals of traffic management.

2.1.4 In preparing or considering design standards for the development of a recreation and holiday settlement, the Local government will consider the following criteria:-

(i) buildings should be designed to sit low in the landscape with the minimum of adjustment to levels and minimum disturbance of natural vegetation.

Materials should be either limestone or limestone coloured brick or fibro cement or weatherboard in coastal areas and could be darker brick or wood in the woodland areas;

(ii) buildings should be grouped or clustered around open space; in valleys in the dune areas and hollowed out clearings in the woodland countryside; and

(iii) planting should concentrate on the locally occurring species and should preferably exclude exotics.

2.1.5 As farming activity in the area is an appropriate economic activity which enhances the landscape value such activity will be encouraged to continue.

2.1.6 Where proposals for development in the area precede the determination of the criteria summarised herein, the developer shall satisfy the Local government that the development meets all the general criteria established herein by preparing an environmental impact statement setting out:

(i) the proposal including:-

- reasons for choice of site;
- population;
- traffic flows; and
- human activities to occur;

(ii) the existing environment including:-

- stability of soil and vegetation;
- capacity of waterways to absorb human use; and
- identification of places of special environmental significance; and

(iii) the planning design criteria, including:-

- physical design standards;
- environmental design standards;
- evaluation of options arising from established criteria and limits imposed by the existing environment.

2.2 AREA 3 – DARLING RANGE

That part of the Scheme Area generally between South West Highway and the eastern boundary of the Shire as depicted on the Scheme Map.

2.2.1 Use of State Forest for recreation and educational enjoyment will be encouraged in conjunction with the Department of Conservation and Land Management needs.

2.2.2 Mining or industrial development on the western escarpment of the Darling Range shall be discouraged.

2.2.3 Buildings should be clustered at the base of the escarpment and screened from the South Western Highway by dense planting of native vegetation.

2.2.4 Rivers and natural creeks should not be dammed or diverted unless such use is necessary for public purposes.

2.2.5 Clearing of the skyline should be restricted and farmers should be encouraged to reafforest existing cleared land.

2.2.6 Subdivision of smaller lots which is other than a minor boundary adjustment should not be recommended to the Western Australian Planning Commission. Larger holdings need to maintain a minimum size of 40 hectares.

2.2.7 Land located within the catchments of dams should not be developed other than for rural purposes or forestry.

2.2.8 Small holding subdivisions should not be recommended to the Western Australian Planning Commission.

2.2.9 Important landscape features such as watercourses, wetlands, hilltops and areas on which treelines are situated, and major rock outcrops and cliffs should be set aside as reserves.

2.2.10 Farm buildings should, where practicable, be clustered with the farmhouse and other outbuildings.

2.3 AREA 4 – BENGER SWAMP

The Benger Swamp is used as a drought refuge by water birds in early summer and is recognised throughout W.A. as a prime waterfowl habitat.

The Crown has acquired approximately ninety per cent of the swamp and the remainder should be acquired as funds become available.

Management objectives should be established by the Department of Conservation and Land Management, in consultation with land owners, to:-

(a) manage the swamp as a waterfowl habitat;

(b) maintain a balance between open water and vegetated areas;

(c) ensure longer periods of flooding each year to increase its value as a drought refuge; and

(d) no further subdivision in this area should be recommended to the Western Australian Planning Commission.

SCHEDULE 3 - ADDITIONAL REQUIREMENTS – SPECIAL RESIDENTIAL ZONE

Clause 5.2 applies and Planning Scheme No. 4

3.1 SPECIAL RESIDENTIAL ZONES

Special Policy on the preservation of live trees.

3.1.1 Standing Dead Trees

Where there are dead trees on a lot they should be removed during the initial clearing operation to reduce the possibility of them damaging good quality live trees during a subsequent clearing operation.

3.1.2 Standing Live Trees

Standing live trees, including immature trees which are in good condition and capable of growing to a height in excess of 3m, should not be cleared from the lot except where they must be removed for boundary fire breaks, driveways or structures. No standing live tree should be removed from forward of the proposed building set back, i.e. between the house and the front property boundary, during the initial clearing operation, unless with specific Local government approval in writing. It is intended that the maximum quantity of standing trees be retained forward of the proposed buildings, at all stages of development, to maintain aesthetic quality within the subdivision.

Removal of standing live trees will only be permitted by the Local government where a landowner can demonstrate that alternative planting of sufficient height will act as a visual screen to any development located behind it.

Landowners may remove trees at the rear of the proposed residence within the building envelope to provide lawns, entertainment areas, vehicle parking etc. but they are required to retain a belt of native vegetation around the extremities of the property. Local government approval shall have been deemed to have been granted for trees which must be removed for house construction provided that a building licence is obtained prior to clearing operations being undertaken and for boundary fencing or firebreaks required under the Bush Fires Act.

3.1.3 Installation of Firebreaks

At the property boundary, landowners shall endeavour to meander the firebreaks around existing live trees and at all times endeavour to avoid the creation of straight visual lines through the subdivision.

3.1.4 Access Driveways

When constructing access driveways into a lot, every effort shall be made to meander the driveway amongst existing live trees. As an alternative, provided an excessive amount of live trees are not disturbed, the driveway may be positioned adjacent to a property boundary where it can perform the dual function of providing vehicular access and creating a boundary fire break.

3.1.5 Fire Protection

Landowners are encouraged to carry out systematic burning of combustible material on their property to keep quantities of such material at ground level to a minimum. Alternatively such combustible material should be removed by mechanical means provided no live trees are damaged in the process.

3.1.6 Poorly Vegetated Lots

Where a lot is void, or substantially void of live trees or vegetation, forward of the proposed building site, whatever vegetation exists should be preserved until such time as alternative planted vegetation is sufficiently established to act as a visual screen between the house and the public road providing access to the site.

3.1.7 Clearing of Land

No clearing taking place outside the adopted building envelopes, other than for:

(i) Removal of dead or dangerous trees, with Local government's approval.

(ii) Provision of access to building sites, with Local government's approval.

(iii) Provision of firebreaks as required by Local government, but taking into account the need to protect significant stands of trees.

3.2 AREA 1 – LESCHENAULT PARKLANDS AND RIVERLANDS ESTATES, LESCHENAULT

3.2.1 Further subdivision of existing lots will not be recommended to the Western Australian Planning Commission by the Local government.

3.2.2 No vehicular access shall be permitted onto the Old Coast Road from the Scheme area unless from gazetted Road Reserves approved by the Main Roads Department.

3.2.3 No dwelling house with a floor area of less than 108m^2 shall be permitted within the Scheme area.

3.2.4 All dwelling houses constructed within the Scheme area shall, prior to occupation, be connected to either a functioning water bore or a 90,000 litre water storage tank.

3.2.5 In addition to the uses specified in the zoning and development table, the Local government may approve on Lot 54 Australind Road, a shop to serve local requirements and that shop may, as ancillary to its main use, supply liquor and petrol.

3.3. AREA 2 – WARRAWARUP

3.3.1 Where stables are permitted on lots the exterior of the stable shall be brick for a minimum height of 2m and the remainder of the exterior shall be brick, masonry, factory coloured metal surface or other material approved by Local government.

3.3.2 Land Use Controls:-

None additional to the Zoning and Development Table and Clause 5.3.

3.3.3 A right of way for the purposes of horse access to the adjoining trotting track has been provided at the rear of each lot and each lot owner will be responsible for the cost of the periodic maintenance of the right of way.

3.3.4 The Local government will recommend to the WA Planning Commission the following subdivision criteria:

- Minimum lot size shall be 2,400m^2;
- Minimum effective frontage shall be 20m; and
- Minimum side setbacks shall be 1.0m one side and 1.5m other side per storey.

3.3.5 Notwithstanding the provisions of Clauses 5.2.12 and 5.2.13, alternative fencing materials along property boundaries may be approved provided that, in the opinion of Local government, such materials do not detract from the amenity of the area or adjoining residences. *AMD 20 GG 14/11/97*

3.4 AREA 3 – WEIR ROAD, HARVEY

3.4.1 Subdivision shall be generally in accordance with the subdivision guide plan certified by the Shire Clerk.

3.4.2 the Local government will recommend to the WA Planning Commission the following subdivision criteria:

- Minimum lot size shall be 2,000m^2; and
- Minimum effective frontage shall be 25 metres.

3.5 AREA 4 – ASHMERE HEIGHTS ESTATE, LESCHENAULT

3.5.1 No person shall remove any trees or shrubs within that area designated as the Vegetation Preservation Area on the plan of subdivision.

3.5.2 No dwelling house with a floor area of less than 150m^2 shall be permitted within the Scheme Area.

3.5.3 Subdivisions shall generally be in accordance with the 'Subdivision guide Plan' certified by the Shire Clerk.

No person shall remove trees from within those areas designated as 'Tree Preservation Area' on the Subdivision Guide Plan.

3.5.4 Upon the subdivision on Lot 3 Elinor Bell Road, all new residential dwellings shall use nutrient attenuating systems or alternative effluent disposal systems.

3.5.5 Subdivision and development of Lot 3 Elinor Bell Road taking place in accordance with the Subdivision Guide Plan, Number 1, adopted by Local government on 23rd March, 1993.

3.5.6 Prior to the subdivision of Lot 3 Elinor Bell Road, the subdivider shall revegetate the first 10 metres of land fronting Cathedral Avenue with indigenous species in accordance with the landscape plan approved by Local government.

3.5.7 All lots to be serviced by an 'approved' alternative on-site effluent disposal system designed for long term usage with phosphorous retaining ability as recommended by the Department of Environment Protection and to the specifications and satisfaction of the health Department of Western Australia and the Local Authority.

3.6 AREA 5 – LOGUE ROAD, HARVEY

3.6.1 Subdivision shall generally be in accordance with the subdivision guide plan certified by the Shire Clerk.

3.6.2 Prior to the granting of approval to subdivide the land into 'Special Residential Lots' the subdivider shall plant and maintain a continuous belt of native trees and shrubs capable of growing to at least 3 metres in height adjacent to Logue Road. The Planting shall be concentrated on land denuded of vegetation by previous agricultural clearing.

3.6.3 As a condition of development on lots created Local government will require the planting and maintenance of 50 native trees capable of growing to at least 3 metres in height on each lot. The planting shall be concentrated around the proposed buildings and between the street alignment and the building setback line.

3.6.4 No person shall remove any trees from his lot unless the prior written consent of the Local government is first obtained. For trees which have to be removed to make way for any boundary fire-breaks required under any Act or Regulations, the prior consent of the Local government shall be deemed to have been granted.

3.6.5 The minimum standard of boundary fencing shall be post and five strand wire 1m to 3m high or post and fabricated fence material (ring lock or similar) unless otherwise approved in writing by the Local government. No boundary fences shall be constructed of fibro cement, metal sheeting or wooden pickets.

3.6.6 No sign, hoarding or billboard shall be permitted within the Scheme Area, unless Local government considers it necessary, provided that no sign so permitted shall have an area greater than $1m^2$.

3.7 AREA 6 – MYALUP BEACH ROAD, MYALUP

1. Notwithstanding the provisions of the Zoning and Development Table the minimum lot size requirements within Area 6 that Local government will recommend to the WA Planning Commission are:

   Minimum area: $1000m^2$
   Minimum effective frontage: 20 metres

2. Subdivision shall generally be in accordance with the Subdivision Guide Plan certified by the Shire Clerk on 23rd June, 1992.

3. The Subdivision Guide Plan defines areas as building envelopes and no dwelling, outbuilding or structure shall be constructed outside the area of the building envelope.

4. Local government may agree to the relocation of a building envelope if it is satisfied that the new location is acceptable and will not result in additional risks of soil erosion or amenity problems including loss of views from neighbouring properties or loss of privacy.

5. The subdivider shall be responsible to construct a strategic firebreak in crushed limestone as shown on the Subdivision Guide Plan.

6. The subdivider shall be responsible to implement a Coastal Management Plan approved by and to the satisfaction of Local government.

7. No boundary fences shall be constructed of the following materials:

   fibro cement sheeting; metal sheeting; wooden pickets.

8. Notwithstanding the provisions of the Zoning and Development Table, no stables are permitted within Special Residential Zone Area 6 and the keeping of horses or other large grazing animals is prohibited.

9. The use of secondhand building materials for visible structures shall be prohibited unless specially approved by Local government.

10. No person shall remove any trees or vegetation from any lot unless the prior consent of Local government has been obtained. The prior consent of Local government shall be deemed to have been granted to any clearing within the building envelope and to any clearing required to create firebreaks (as required under any Act or Regulation) and to provide access to the building envelope.

11. The subdivider is to make satisfactory arrangements with the Local Authority to ensure prospective purchasers are advised of the special provisions which apply to the amendment area.

12. Effluent disposal systems to be a minimum of 100m from any water source with a 2 metre minimum vertical clearance from the highest known water table or bedrock and are to be of a type that will minimise nutrient export. The installation to be to Local government's specifications and satisfaction.

3.8 AREA 7 – RIFLE RANGE, HARVEY

3.8.1 The subdivision of land generally known as the Harvey Rifle Range (Reserves 17805, 16030, 22877, 17482 and 21587 and Lots 18, 219 and 258), shall be in accordance with the structure plan endorsed by Local government and amended from time to time.

3.9 AREA 8 – WATERLOO ROAD, ROELANDS

Portion of Wellington Location 1, Pt Lot 9 Waterloo Road, Roelands *AMD 14 GG 26/2/99*

Wellington Location 5069, Waterloo Road, Roelands *AMD 44 GG 28/9/01*

Portion of Lots 28 and 29 Waterloo Road and Lots 15, 16 and 17 Nunnagine Circle, Roelands *AMD 109 GG 8/7/16*

3.9.1 Subdivision shall generally be in accordance with the Subdivision Guide Plan dated May 2000 attached to the Scheme Amendment Report of Amendment No. 44; the Subdivision Guide Plan dated October 1998 attached to the Scheme Amendment Report of Amendment No. 14 to Town Planning Scheme No. 1 and the Subdivision Guide Plan dated July 1996 attached to the Scheme Amendment Report of Amendment 78 of the former Shire of Harvey Town Planning Scheme No. 10.

3.9.2 No further subdivision of the lots shown on the Subdivision Guide Plan shall be permitted.

3.9.3 All buildings, structures and effluent disposal systems shall be contained within a Building Envelope as approved by Local government.

3.9.4 No trees or substantial vegetation shall be felled or removed from the site except where –

- X it is inside the approved building envelope;
- X it is required to establish a firebreak or driveway;
- X trees are dead, diseased or dangerous.

3.9.5 Local government shall request at the subdivision stage the subdivider to undertake a tree planting programme to the specification and satisfaction of Local government, with revegetation to be concentrated along boundaries.

3.9.6 On each lot denuded of natural vegetation by previous agricultural clearing, Local government will require on each lot as a condition of building approval, the planting and maintenance of 50 native trees capable of growing to at least three metres in height. The planting shall be concentrated around the proposed buildings and between the street alignment and the building setback line.

3.9.7 A well licence must be obtained from the Water and Rivers Commission prior to the construction of a well or bore to draw ground water.

3.9.8 Boundary fencing shall be post and four strand wire, or post and ringlock or similar as approved by Local government. Solid fencing such as Super 6, pickets or metal sheeting shall not be permitted on boundaries and only permitted in proximity to buildings where Local government determines that it will not adversely impact on the rural character of the area.

3.9.9 Prior to lodging a subdivision application a geotechnical report demonstrating site suitability for the on-site disposal of wastewater is to be provided to the satisfaction of the Health Department of Western Australia. *AMD 44 GG 28/9/01*

3.9.10 At the time of subdivision, the subdivider is to prepare and implement a drainage management plan for the land covered by Amendment 44 to Town Planning Scheme No. 1 to the satisfaction of Waters and Rivers Commission, Leschenault Inlet Management Authority and Westrail. *AMD 44 GG 28/9/01*

3.10 AREA 9 – CATHEDRAL AVENUE, LESCHENAULT *AMD 17 GG 22/1/99*

3.10.1 Subdivision shall generally be in accordance with the Structure Plan (Plan No. 94-93-06) dated October 1998, attached to the Scheme Amendment Report (Amendment No. 17).

3.10.2 Table 1 – Zoning and Development Table has defined Building Envelopes by setting the following minimum setbacks:

- 20 metres from front boundaries;
- 20 metres from rear boundaries; and
- 5 metres from side boundaries.

3.10.3 Notwithstanding the setbacks established by Table 1 – Zoning and Development Table, the following additional criteria shall apply in establishing Building Envelopes:

- a minimum of 20 metres setback from the southern boundary of Lot 21;
- setback from Old Coast Road is to be as determined on the Structure Plan;
- in selecting a building envelope, account is to be taken of the location of effluent disposal systems so that it will meet Health Department of Western Australia requirements; and
- within the Building Envelope a maximum area of 2000m2 shall be identified and cleared for development.

3.10.4 Local government may request at the subdivision stage that building envelopes are established for all proposed lots on a copy of the diagram of Survey, to Local government's satisfaction.

3.10.5 All buildings and on-site effluent disposal systems shall be constructed within the Building Envelope as defined by Clauses 3.10.2, 3.10.3 and 3.10.4 above.

3.10.6 Where for the purpose of retaining natural flora, sound environmental reasons or the physical constraints of a site dictate, Local government may set an alternative building envelope.

3.10.7 New development on all lots shall be serviced by 'alternative on-site effluent treatment and disposal systems' together with amended soils to the specification and satisfaction of the Health Department of Western Australia.

3.10.8 Local government may request at the subdivision stage the subdivider to undertake the preparation and implementation of a Landscape Development Plan for those areas of the site which are denuded of native vegetation, to the specification and satisfaction of Local government. Such revegetation is to be strategically located along boundaries, the recreation reserve and the Old Coast Road frontage bearing in mind the need to maintain view corridors and assist with noise attenuation.

3.10.9 The developer is required to maintain the revegetated areas and to replace diseased or dead plants for a period of two years.

3.10.10 A well licence must be obtained from the Water and Rivers Commission prior to the construction of a well or bore to draw ground water.

3.10.11 All development shall be constructed of non-reflective building materials which are in harmony with the rural landscape character of the area as determined by Local government.

3.10.12 Where lots are denuded of native vegetation the Local government may require revegetation in accordance with Clause 5.2.7of the Scheme consistent with the Landscape Plan requirements of Clause 3.10.8 above.

3.10.13 Prospective purchasers of lots abutting Old Coast Road should be aware that there is a potential for traffic noise to be generated from Old Coast Road.

AREA 9 PT LT 30 SCHOOL ROAD, YARLOOP *AMD 38 GG 9/5/00*

(a) Notwithstanding the provisions of the Zoning and Development Table, the minimum lot size within Area 9 shall be 2000m^2, with a minimum effective frontage of 20m.

(b) Subdivision shall be generally in accordance with the Outline Development Plan attached to the Scheme Amendment Report (Amendment No. 38)

(c) Building setbacks shall be consistent with the requirements of the Scheme's 'Special Residential Zoning and Development Table' or building envelope locations as determined by the Outline Development Plan.

(d) Local government may at its discretion vary the Building Envelope size or location provided that:

(i) Local government is satisfied the location of the new building envelope will not be intrusive or impact on the overall development and surrounding environs.

(ii) It is demonstrated to Local government's satisfaction that there are sound reasons for relocating the building envelope

(iii) No valid objection (in the opinion of Local government) is raised by adjoining or affected landowner(s).

(e) On-site effluent disposal systems shall be to the satisfaction of the Health Department of Western Australia and Local government.

(f) Subject to clause (e) above, conventional on-site effluent disposal systems shall be constructed so as to achieve a minimum vertical separation of 2 metres between the system and the highest known groundwater level, and 100 metres horizontal separation from any standing water bodies.

(g) Boundary fencing shall not be constructed using Super 6, pickets or metal sheeting.

(h) At the time of subdivision, Local government or SW Irrigation may recommend to the Western Australian Planning Commission that uniform fencing be constructed along the irrigation channel at the subdivider's expense.

3.11 AREA 10 - WESTERN RESIDENTIAL PRECINCT – TREENDALE *AMD 110 GG 12/6/15*

3.11.1 The Local Government will recommend to the Western Australian Planning Commission that subdivision be approved generally in accordance with the plan described as Figure 3 – which forms part of Scheme Amendment 110 (Scheme Report).

3.11.2 The Local Government will recommend a minimum lot size of 2,000m2 and will not support further subdivision of lots.

3.11.3 The Local Government will request the Western Australian Planning Commission that as a condition of subdivision approval, an Effluent Management Plan be undertaken to ensure that all lots are capable of being serviced by an "approved" alternative on-site effluent disposal system designed for long term usage with phosphorus retaining ability as recommended by the Department of Environmental Protection to the specifications and satisfaction of the Health Department of Western Australia and the Local Authority.

3.11.4 The Local Government will request the Western Australian Planning Commission that as a condition of subdivision approval the applicant be required to prepare and implement a landscape plan for the land identified as requiring revegetation in the Treendale Structure Plan.

3.11.5 The Local Government will request the Western Australian Planning Commission that as a condition of subdivision approval the applicant be required to prepare and implement, a foreshore management plan addressing such matters as public access, fencing and bushfire control.

3.11.6 The Local Government will request the Western Australian Planning Commission that as a condition of subdivision approval the applicant be required to make satisfactory arrangements with the Local Authority to ensure prospective purchasers are advised of the special provisions which apply to Special Residential – Western Residential Precinct – Treendale.

3.11.7 The Local Government will request the Western Australian Planning Commission, requires the applicant to undertake an acoustic study to be prepared to the satisfaction of the Local Government and the Department of Environmental Regulation which addresses potential noise impacts from the Australind Bypass, as a condition of subdivision approval. The recommendations of the report, including the requirement for the subdivider to design and construct an appropriate noise bund adjacent to the Australind Bypass shall be implemented as a condition of subdivision.

3.11.8 A Notification, pursuant to Section 70A of the Transfer of Land Act 1893, is to be placed on the certificates of title of the proposed lots. The notification is to read "The lot is situated in the vicinity of a transport corridor and is currently affected, or may be affected in the future by transport noise".

3.11.9 Notwithstanding the provisions of the zoning and Development Table, the following setbacks shall apply to land within this Area:

Front - 15 metres from front boundaries
Side - 5 metres from side boundaries; and,
Rear - 7 metres from rear boundaries.

3.11.10 Despite subclause 3.11.9, the setbacks for Lots 7 and 8 Cragie Drive, Roelands shall be as shown on Building Envelope Plan 18-022649-MP-01B. *AMD 122 GG 15/11/19*

3.12 AREA 11 – WATERLOO ROAD, ROELANDS EAST

AMD 78 GG 11/8/09
AMD 115 GG 7/09/18

3.12.1 Despite the minimum lot size specified in Table 1, the Local Government may support a minimum average lot size of 3200sqm and an absolute minimum lot size of 2000sqm. The design has been guided by a Landscape assessment report to minimise the adverse impacts on the landscape values of the area.

3.12.2 Subdivision to be in accordance with an approved Structure Plan.

3.12.3 No further subdivision of the lots shown on the Structure Plan shall be permitted.

3.12.4 Prior to subdivision approval, the subdivider is to prepare an Urban Water Management Plan that reflects the endorsed Structure Plan to the satisfaction of the Local

Government, in consultation with the Department of Water. A condition of subdivision approval will require the plan to be implemented to the satisfaction of the Local Government.

3.12.5 The subdivider will be required, as a condition of subdivision, to implement a Bushfire Management Plan as supported by the Department of Fire and Emergency Services and approved by the Local Government.

3.12.6 The subdivider will be required to upgrade Waterloo Road, from Government Road to the subdividable area. The standard of upgrading will be determined to the Local Government's satisfaction prior to subdivision.

3.12.7 As a condition of subdivision, the Applicant is to prepare and implement a Black Cockatoo Habitat Management Plan, to the satisfaction of the Department of Biodiversity, Conservation and Attractions. *AMD 115 GG 7/9/18*

3.12.8 A condition of subdivision approval will require a notification to be placed on title under Section 70A of the Transfer of Land Act to notify purchasers of their rights and obligations under the Fire Management Plan endorsed by FESA and Local Government.

3.12.9 A condition of subdivision approval will require a notification to be placed on title under Section 70A of the Transfer of Land Act to notify purchasers that the subject land is located adjacent to rural land and rural activity may have a nuisance effect on amenity.

3.12.10 A condition of subdivision approval will require a notification to be placed on title under Section 70A of the transfer of Land Act to notify purchasers that the subject land is located adjacent to a quarry on nearby Reserve 30354, and associated activities may have a nuisance effect on amenity including noise, vibration and heavy vehicle movements.

3.12.11 The subdivider is to submit, together with any subdivision application, a 'Sustainability Implementation Report', which details the targets and method of delivery in respect to 'sustainability outcomes' including:

- on-site power generation;
- on-site water capture and re-use;
- re-use of grey water; and
- correct housing orientation for passive heating and cooling.

A condition of subdivision may be imposed in order to achieve implementation of the agreed outcomes.

3.12.12 At the time of subdivision, the subdivider is to prepare and implement a landscaping and revegetation plan to enhance the landscape amenity of the site when viewed form public areas. The landscaping and revegetation plan shall give regard to Clause 5.2.7 of the Scheme.

3.12.13 In order preserve the landscape values of the area, the design and construction of buildings should have regard to the following:

- Use of non reflective building, including roofing, materials only;
- Colours to be consistent with the vegetation and / or the predominant colours of individual building sites in their natural setting; and
- Minimal cut.

3.12.14 All buildings, structures and effluent disposal systems shall be contained within a Building Envelope as approved by the Local Government.

3.12.15 No trees or substantial vegetation shall be felled or removed from the site except where:

- it is inside the approved building envelope;
- it is required for road construction;

- it is required to establish a firebreak or driveway;
- trees are dead, diseased or dangerous.

3.12.16 Boundary fencing shall be post and four strand wire, or post and "ring-lock" or similar as approved by the Local Government. Solid fencing shall not be permitted on boundaries and only permitted in proximity to buildings where Local government determines that it will not adversely impact on the rural character or landscape values of the area.

3.12.17 Effluent disposal is to be provided in accordance with the recommendations of a Geotechnical Report, to the satisfaction of the Local Government and Department of Health.

3.13 AREA 12 – FRYER ROAD, HARVEY

AMD 74 GG 25/01/11

3.13.1 Subdivision and Development is to be in accordance with a Structure Plan endorsed by the Shire of Harvey and the WAPC.

3.13.2 No further subdivision of the lots shown on the Plan of Subdivision shall be permitted.

3.13.3 Prior to any subdivision occurring, the existing dairy is to cease operation and be removed to the satisfaction of the Local Government.

3.13.4 The subdivider will be required, as a condition of subdivision, to implement a Fire Management Plan as endorsed by Fire and Emergency Services of Western Australia.

3.13.5 The subdivider will be required to upgrade Fryer Road. The standard of upgrading will be determined to the Local Government's satisfaction prior to subdivision.

3.13.6 A condition of subdivision approval will require a notification to be placed on title under Section 70A of the Transfer of Land Act to notify purchasers that the subject land is located adjacent to rural land and rural activity may have a nuisance effect on amenity.

3.13.7 The subdivider is to submit, together with any subdivision application, a 'Sustainability Implementation Report', which details the targets and method of delivery in respect to 'sustainability outcomes' including:

- on-site power generation;
- on-site water capture and re-use;
- re-use of grey water; and
- correct housing orientation for passive heating and cooling.

A condition of subdivision may be imposed in order to achieve implementation of the agreed outcomes.

3.13.8 The subdivider will be required, as a condition of subdivision, to prepare and implement a landscape plan for the area of proposed POS. The plan will be outline landscaping measures to be undertaken to reduce any potential nuisance effect from nearby rural properties.

3.13.9 Residential dwellings are to be located in accordance with a building envelope/setback plan prepared by the subdivider and endorsed by the Local Government. The plan is to ensure maximum setback distances are provided to nearby rural properties.

3.13.10 The subdivider will be requested as a condition of subdivision to suitably locate the existing rural drain infrastructure to the satisfaction of the Water Corporation.

3.13.11 The subdivider will be requested as a condition of subdivision to provide the lots with a connection to the reticulated sewerage service where necessary.

3.14 AREA 13 - NUNNAGINE CIRCLE, ROELANDS *AMD 109 GG 8/7/16*

3.14.1 Despite the minimum lot size specified in Table 1, the Local Government may support a minimum average lot size of 4000sqm and an absolute minimum lot size of 2000sqm. The design has been guided by a Visual Impact Assessment to minimise the adverse impacts on the landscape values of the area.

3.14.2 Subdivision to be in accordance with an approved Structure Plan.

3.14.3 No further subdivision of the lots shown on the Structure Plan shall be permitted.

3.14.4 Prior to subdivision approval, the subdivider is to prepare an Urban Water Management Plan that reflects the endorsed Structure Plan to the satisfaction of the Local Government and the Department of Water. A condition of subdivision approval will require the plan to be implemented to the satisfaction of the Local Government and the Department of Water.

3.14.5 The subdivider will be required, as a condition of subdivision, to implement a Fire Management Plan as endorsed by the Department of Fire and Emergency Services.

3.14.6 A condition of subdivision approval will require a notification to be placed on title under section 70A of the Transfer of Land Act to notify purchasers of their rights and obligations under the Fire Management Plan endorsed by the Department of Fire and Emergency Services and Local Government.

3.14.7 A condition of subdivision approval will require a notification to be placed on title under Section 70A of the Transfer of Land Act to notify purchasers that the subject land is located adjacent to rural land and rural activity may have a nuisance effect on amenity.

3.14.8 A condition of subdivision approval will require a notification to be placed on title under section 70A of the Transfer of Land Act to notify purchasers that the subject land is located within proximity to a quarry on nearby Reserve 30354, and associated activities may have a nuisance effect on amenity including noise, vibration and heavy vehicle movements.

3.14.9 The subdivider is to submit, together with any subdivision application, a 'Sustainability Implementation Report', which details the targets and method of delivery in respect to 'sustainability outcomes' including -

- on-site power generation;
- on-site water capture and re-use;
- re-use of grey water; and
- correct housing orientation for passive heating and cooling.

A condition of subdivision may be imposed in order to achieve implementation of the agreed outcomes.

3.14.10 The Local Government will request that the WAPC impose a condition of subdivision requiring the preparation and implementation of a tree planting programme. Tree planting should be concentrated around the building envelope and the landscaping and revegetation plan shall have regard to Clause 5.2.7 of the Scheme.

3.14.11 In order to preserve the landscape values of the area, the design and construction of buildings should have regard to the following -

- Use of non reflective building, including roofing, materials only;
- Colours to be consistent with the vegetation and/or the predominant colours of individual building sites in their natural setting; and
- Minimal cut.

3.14.12 All buildings, structures and effluent disposal systems shall be contained within a Building Envelope as approved by the Local Government.

3.14.13 No trees or substantial vegetation shall be felled or removed from the site except where -

- It is inside the approved building envelope;
- It is required for road construction;
- It is required to establish a firebreak or driveway;
- trees are dead, diseased or dangerous.

3.14.14 Boundary fencing shall be post and four strand wire, or post and "ring-lock" or similar as approved by the Local Government. Solid fencing shall not be permitted on boundaries and only permitted in proximity to buildings where Local government determines that it will not adversely impact on the rural character or landscape value of the area.

3.14.15 A geotechnical report of the site under winter conditions shall be prepared by the subdivider and accompany an application for subdivision lodged with the Western Australian Planning Commission. The geotechnical report shall demonstrate that the site is capable of disposing wastewater to the satisfaction of the Local Government.

3.14.16 Landowners shall make appropriate arrangements for the provision of on-site effluent disposal systems to the specifications and satisfaction of the Local Government.

3.14.17 Notwithstanding the requirements of Clause 5.2.11 of the Scheme Text, Local government may permit the use of alternative building materials and the erection of 'pole style' dwellings where Local government is satisfied that the proposed building will be of a sufficiently high standard to complement and blend with the local character of the area.

3.14.18 Notwithstanding the provisions of the Zoning and Development table, the following setbacks shall apply to land within this Area -

- Front - 15 metres from front boundaries;
- Side - 5 metres from side boundaries; and
- Rear - 7 metres from rear boundaries.

3.14.19 No residential dwellings or sensitive land use shall be located inside a buffer to the nearby granite quarry as determined by scientific analysis to the satisfaction of the Environmental Protection Authority and the Department of Mines and Petroleum as depicted on the approved Structure Plan.

3.14.20 All lots shall be connected to a reticulated water supply provided by the Water Corporation.

3.14.21 The Local Government will request that the WAPC impose a condition of subdivision requiring the implementation of a vegetated buffer, in a form to be determined in consultation with the Department of Health, to protect Special Residential lots from agricultural activities.

3.14.22 The Local Government will request that the WAPC impose a condition of subdivision requiring a building envelope to be identified for proposed Lot 9, located outside of the quarry buffer.

3.15 AREA 14 - WARBURTON ROAD, ROELANDS *AMD 111 GG 11/12/15*

3.15.1 Despite the minimum lot size specified in Table 1, the local government may support a minimum lot size of 2000sqm.

3.15.2 Subdivision to be in accordance with an approved Structure Plan endorsed by the Shire of Harvey and the WAPC.

3.15.3 No further subdivision of the lots shown on the Structure Plan shall be permitted.

3.15.4 Notwithstanding the provisions of the Zoning and Development Table, the following setbacks shall apply to land within this Area -

Front - 15 metres from front boundaries
Side - 5 metres from side boundaries or a reduced setback as prescribed in the local structure plan; and,
Rear - 7 metres from rear boundaries

3.15.5 All buildings, structures and effluent disposal systems shall be contained within the minimum setback areas unless otherwise approved by Local government.

3.15.6 Prior to subdivision approval the subdivider is to prepare an Urban Water Management Plan that reflects the endorsed Structure Plan to the satisfaction of the Local Government and the Department of Water. A condition of subdivision approval will require the plan to be implemented to the satisfaction of the Local Government and the Department of Water.

3.15.7 The subdivider will be required, as a condition of subdivision, to implement a Fire Management Plan as endorsed by the Department of Fire and Emergency Services.

3.15.8 A condition of subdivision approval will require a notification to be placed on title under section 70A of the Transfer of Land Act to notify purchasers of their rights and obligations under the Fire Management Plan endorsed by the Department of Fire and Emergency Services and Local Government.

3.15.9 The subdivider is to submit, together with any subdivision applications, a 'Sustainability Implementation Report', which details the targets and method of delivery in respect to 'sustainability outcomes; including –

- On-site power generation;
- On-site water capture and re-use;
- Re-use of grey water; and
- Correct housing orientation for passive heating and cooling.

A condition of subdivision may be imposed in order to achieve implementation of the agreed outcomes.

3.15.10 The Local Government will request that the WAPC impose a condition of subdivision requiring the preparation and implementation of a tree planting programme for street trees (road verges) and adjoining Recreation reserves.

3.15.11 In order to preserve the landscape values of the area, the design and construction of buildings should have regard to the following -

- Use of non reflective building, including roofing, materials only; and
- Colours to be consistent with the vegetation and/or the predominant colours of individual building sites in their natural setting.

3.15.12 No trees or substantial vegetation shall be felled or removed from the site except where -

- It is inside the minimum setback area;
- It is required for road construction;
- It is required to establish a firebreak or driveway;
- Trees are dead, diseased or dangerous.

3.15.13 Boundary fencing shall be post and four strand wire, or post and 'ring-lock' or similar as approved by the Local Government. Solid fencing shall not be permitted on boundaries and only permitted in proximity to buildings where Local government determines that it will not adversely impact on the rural character or landscape values of the area.

3.15.14 Prior to the issue of approval of the Local Structure Plan, the subdivider shall submit to the Department of Health and the Local Government for endorsement a geotechnical report demonstrating the capability of the site to accommodate on-site effluent disposal.

3.15.15 The subdivider shall provide prospective purchasers with a copy of the approved geotechnical report to ensure that all lots are capable of being serviced by an "approved" alternative on-site effluent disposal system designed for long term usage with phosphorous retaining ability to the specifications and satisfaction of the Department of Health and the Local Government.

3.15.16 Landowners shall make appropriate arrangements for the provision of on-site effluent disposal systems to the specifications and satisfaction of the Local Government.

3.15.17 Notwithstanding the requirement of Clause 5.2.11 of the Scheme Text, Local government may permit the use of alternative building materials and the erection of 'pole style' dwellings where Local government is satisfied that the proposed building will be a sufficiently high standard to complement and blend in with the local character of the area.

3.15.18 Local government may request the Western Australian Planning Commission to impose a condition on a subdivision approval requiring the subdivider to place a 70A Notification on the Title of the proposed lots to advise that the amenity of the lot may be affected by traffic noise from the Forrest Highway and a future upgrade to the intersection of Forrest Highway and Raymond Road.

3.15.19 As a condition of subdivision, an Acoustic report and a Noise Management Plan is to be prepared by the subdivider. A landscaped earthbund shall be the primary noise barrier mitigation noise from Forrest Highway, within the Landscape Buffer reserve.

SCHEDULE 4 - ADDITIONAL REQUIREMENTS – SPECIAL RURAL ZONE

Clause 5.3 applies.

4.1 AREA 1 – FORESTRY ROAD, UDUC

The area shown on the Scheme Map at the junction of Myalup Road and Forestry Road.

4.1.1 Subdivision and Development Criteria:-

(a) The Local government will recommend to the WA Planning Commission that the minimum lot size of 10 hectares – except in the case of existing lots will apply;

(b) the existing drainage channel shall be retained and taken account of in the subdivision design;

(c) the clearing of trees between the front setback line and the front boundary requires the approval of the Local government;

(d) residential occupation of a lot will not be permitted unless a potable water supply is available to the lot. The Local government may agree to a 92,000 litre rainwater storage tank;

(e) fencing within the area shall retain the rural character of the area and the use of fibro cement, metal sheeting or wooden pickets for boundary fencing is prohibited; and

(f) as a condition of approving development on each of the lots created by subdivision, the Local government shall require planting and maintenance of native trees capable of growing to a height of at least 3 metres to ensure that each lot has at least 10 trees per hectare. The planting shall be concentrated around the buildings and in the area between the front setback line and the front boundary.

4.1.2 Land Use Controls:-

As for the Zoning and Development Table and Clause 5.3 except that the keeping of pigs for non-commercial purposes is permitted.

4.2 AREA 2 – COOKERNUP

Those areas of the townsite of Cookernup shown on the Scheme map.

4.2.1 Subdivision and Development criteria:-

(a) No further subdivision beyond that which exists should be recommended to the Western Australian Planning Commission.

(b) existing drainage and irrigation channels shall be maintained and any modification to them requires the prior approval of the Local government;

(c) the use of fibro cement, metal sheeting or wooden pickets as boundary fencing is prohibited;

(d) residential occupation of any lot will not be permitted unless a potable water supply is available to the lot. The Local government may agree to a 90,000 litre rainwater storage tank;

(e) as a condition of development, the Local government may require the planting and maintenance of 20 native trees capable of growing to at least 3 metres in height for each hectare or part of a hectare of the area of the lot. The planting shall be concentrated around the proposed buildings and between the front setback line and the front boundary; and

(f) use of second hand materials for visible structures is prohibited.

4.2.2 Land Use Controls:-

Non additional to the zoning and Development Table Clause 5.3.

4.3 AREA 3 – LOGUE ROAD, HARVEY

4.3.1 Subdivision shall generally be in accordance with the subdivision guide plan certified by the Shire Clerk.

4.3.2 Prior to the granting of approval to subdivide the land by the Western Australian Planning Commission, into "Special Residential Lots" the subdivider shall plant and maintain a continuous belt of native trees and shrubs capable of growing to at least 3 metres in height, adjacent to Logue Road. The planting shall be concentrated on land denuded of vegetation by previous agricultural clearing.

4.3.3 As a condition of development on lots created Local government will require the planting and maintenance of 50 native trees capable of growing to at least 3 metres in height on each lot. The planting shall be concentrated around the proposed buildings and between the street alignment and the building setback line.

4.3.4 No person shall remove any trees from his lot unless the prior written consent of the Local government is first obtained. For trees which have to be removed to make way for any boundary fire-breaks required under any Act or Regulations, the prior consent of the Local government shall be deemed to have been granted.

4.3.5 The minimum standard of boundary fencing shall be post and 5 strand wire 1m to 3m high or post and fabricated fence material (ring lock or similar) unless otherwise approved in writing by the Local government. No boundary fences shall be constructed of fibro cement, metal sheeting or wooden pickets.

4.3.6 No sign, hoarding or billboard shall be permitted within the Scheme Area, unless Local government considers it necessary, provided that no sign so permitted shall have an area greater than $1m^2$.

4.3.7 The construction of dams on natural water courses within private property shall not be approved unless the owner can demonstrate to the satisfaction of the Local government that the proposed dam will not have an adverse effect on the quantity and quality of water made available to downstream consumers.

4.3.8 That dam applications be referred to the Water Authority of Western Australia, the Leschenault Inlet Management Authority and Peel Inlet Management Authority.

4.3.9 No further subdivision of lots within the Scheme Area shall be recommended to the Western Australian Planning Commission.

4.4 AREA 4 – CATHEDRAL AVENUE, LESCHENAULT

(Special Rural and Landscape Protection)

Land Use Policy

This zone has been designed to ensure that land uses do not:

- increase the nutrient load to the estuary;
- cause land degradation, dust and erosion;
- result in clearing of existing native vegetation or replanting of significant areas with non indigenous species;
- encourage buildings within the flood plain;
- cause excessive noise or disturbance to the existing lifestyle of the area; and
- increase power boating use of the northern estuary.

The following criteria are attached to development in this zone:-

- All developments must go to Local government for consideration, no uses will be permitted as a right.
- Existing land use practices can be continued as non-conforming uses.
- This zone allows for one residential dwelling per lot. Except with special Local government approval.
- The Local government will recommend to the WA Planning Commission that subdivision of land in this area should be a minimum lot size of 2 hectares south of Crimp Crescent and 5 hectares north of Crimp Crescent.
- A restaurant is not included within this zoning and would require a further rezoning application. This applies to both on and over water developments.
- A Waterways Protection Precinct line has been drawn on the attached maps. This line has been determined using the following criteria wherever practicable:-

    - a setback of 200 metres from mean high water mark;
    - development outside the 1:100 floodline;
    - 50 metres setback from Cathedral Avenue;
    - landscape aesthetics;
    - topography; and
    - existing vegetation.

Land uses that could be permitted within the zone after Local government consideration are:-

- Dwelling (one dwelling per 2ha lot and associated outbuildings)
- Home Occupation
- Art and Craft Studio
- Keeping of Livestock
- Wayside Stall
- Consulting Rooms
- Caretaker's House
- Land uses that could be permitted after advertising:-
- Lodging House/Residential Building
- Health Farm

CRITERIA:

In addition a number of other criteria would need to be applied to the area, these include:-
SETBACKS

The Waterways Protection Precinct, where practicable.

BUILDING ENVELOPES

Determine a building envelope for the site which will be large enough for house and outbuildings.

Determine the building envelope to give views of the estuary but to minimise views of developments from the estuary and road.

Determine building envelopes for existing lots already with developments. Ensure that any future developments on these lots occur on the new envelope.

STOCK CONTROL

The keeping of horses will be permitted, subject to no more than 1 horse per hectare.

The keeping of grazing animals, including horses, shall be subject to the prior approval of the Local government. Animal stocking rates shall not exceed the stocking rates recommended by the Department of Agriculture for the pasture type for the policy area.

If, in the opinion of Local government or after obtaining the advice of the Department of Agriculture, the land is being degraded by horses, Local government may require the removal of horses from the property.

(See other sections regarding effluent control and landscape and rehabilitation plan.)

UTILITY SERVICES

Further overhead power lines will not be supported on the estuary flats.

BUILDING STRUCTURES – LOCATION AND MATERIALS

Discourage developments which through their height, bulk, colour and/or texture for material used are considered to be out of character with the estuary and bushland environment.

LANDSCAPE AND REHABILITATION PLAN

Develop a landscape plan in consultation with landowners.

Trees used are to be at least 3 metres in height.

Encourage landowners to develop part of their property as wildlife habitat.

Restrict stock access to revegetated areas.

Encourage landowners to develop an undergrowth of native vegetation which will not require annual burning.

Restrict clearing of the escarpment to other than building envelopes.

Control public access to Public Open Space on the escarpment to protect fragile slopes.

Establish the area as a landscape protection precinct in the Planning Scheme.

RESERVES

Link reserves on the foreshore to the escarpment:

visually – through the landscape plan
physically – through a roadway network but not for through traffic.

Encourage buffer zones on the eastern side of Cathedral Avenue which will be treated like reserves but still be private property under agreement with the landowner.

Encourage landowners and reserve vestees to remove weed species in accordance with the landscape plan. Use of pesticides should be in accordance with guidelines.

Encourage community groups to assist with revegetation of public areas in accordance with landscape plan.

SUBDIVISION

If possible subdivide properties perpendicular to the estuary so that building envelopes are on the eastern end of the block, not the estuary flats.

The Local government will recommend to the WA Planning Commission that subdivision of land in this area should contain a minimum lot size of 2 hectares south of Crimp Crescent and 5 hectares north of Crimp Crescent.

RECREATION

Establish recreation nodes to the west of Cathedral Avenue for low key recreation use. No random power boat launching permitted other than in authorised areas.

Discourage power boating access in the northern 3 kilometres of the estuary. Development of a brochure by the Leschenault Inlet Management Authority explaining why boating access in the northern 3 kilometres should be limited.

Restrict the establishment of further camping areas on the basis that sufficient areas will be established in the future on Leschenault Peninsula.

CATHEDRAL AVENUE

Improve traffic management in Cathedral Avenue by providing traffic calming devices, landscaping, widening of the road reserve (eastwards only) for separate carriageways, pedestrian and cycling facilities and carparking, in accordance with Local government plans.

WATER QUALITY AND NUTRIENT CONTROL

Encourage establishment of vegetation buffers on the eastern side of Cathedral Avenue in association with the landscape plan.

The Department of Agriculture to provide advice to landowners on recommended fertiliser and pesticide use.

Maintain vegetation on lots at all times to reduce runoff from these areas into the estuary.

Restrict the storage of toxic chemicals and fuels on properties on the estuary flats.

Require landowners on the estuary flats to dispose of rubbish in accordance with Local government guidelines. No personal tip sites and no burying of rubbish or animal effluent on site.

Local government supports the use of alternative wastewater treatment and effluent disposal systems. The onus of proof will rest with the subdivider to provide sufficient technical and engineering evidence that alternative systems or site modifications remove any adverse affects on public health, water resources or the environment while not detrimentally impacting on the character of the area.

Existing properties will be permitted to operate conventional on-site effluent disposal systems provided they are operating effectively. If any existing systems are to be replaced in the future, Local government will encourage the use of an alternative wastewater treatment and effluent systems.

New commercial development or extensions must incorporate effluent management systems approved by the Health Department, the Environmental Protection Authority and the Water Authority of Western Australia, or connect to reticulated sewerage if available.

Encourage the development of nutrient and irrigation management programmes for the northern catchment.

Encourage the development of wetland wildlife habitats as nutrient stripping devices.

Encourage the use of compensating basins as nutrient and pollution stripping devices.

RATES

Develop a system whereby people not–wishing to be rezoned from “General Farming” get a discounted rate. Some sort of retrospective system must be in place if they wish to fall into the new zoning practice ie must pay new rate zoning at least two years before subdividing in accordance with subdivision plan.

FLORA AND FAUNA

Establish strategies for the control of exotic species in association with the APB and the Mosquito Control Advisory Committee.

SUBDIVISION OF LOTS 21 & 24 *AMD 17 GG 22/1/99*

Subdivision and Development Criteria:

(a) Subdivision shall generally be in accordance with the Structure Plan (Plan No. 94-93-06) dated October 1998, attached to the Scheme Amendment Report (Amendment No. 17).

(b) The following criteria and setbacks shall apply in establishing Building Envelopes:

  (i) a minimum 200 metre setback from Cathedral Avenue and no development is permitted within the Waterways Protection Precinct, whichever is greater;

  (ii) the setback from Old Coast Road is to be as determined on the Structure Plan;

  (iii) a minimum of 30 metres from other roads;

  (iv) a minimum of 20 metres from the rear and side boundaries;

  (v) in selecting a building envelope, account is to be taken of the location of effluent disposal systems so that it will meet Health Department of Western Australia requirements;

  (vi) notwithstanding points i) and iv) the setback from Cathedral Avenue for the land outside Waterways Protection Precinct, may be decreased to no less than 100 metres, in keeping with clause 8.1 of the Scheme;

  (vii) building envelopes are to be a maximum of 5000 square metres; and

(viii) all building envelopes are to be located outside the 500 metre off-site industrial buffer area established for the abattoir works on Lot 26 Rosamel Road, Parkfield.

(c) Local government may request at the subdivision stage that building envelopes are established for all proposed lots on a copy of the Diagram of Survey, to Local government's satisfaction.

(d) All buildings and on-site effluent disposal systems shall be constructed within the Building Envelope as defined by Clause (b) and (c) above.

(e) Where for the purpose of retaining natural flora, sound environmental reasons or the physical constraints of a site dictate, Local government may set an alternative building envelope.

(f) New development on all lots shall be serviced by 'alternative on-site effluent treatment and disposal systems' together with amended soils to the specification and satisfaction of the Health Department of Western Australia.

(g) Local government may request, at the subdivision stage, that the subdivider undertake the preparation and implementation of a Landscape Development Plan for those private and public areas, which are denuded of native vegetation, to the specification and satisfaction of Local government. Such revegetation to be strategically located along the Old Coast Road and Cathedral Avenue frontages, the Waterways Protection Precinct, within the recreation reserve (but consistent with the Rosamel Swamp Management Plan recommendations) and along boundaries, bearing in mind the need to maintain view corridors and assist in noise attenuation.

(h) The developer is required to maintain the revegetated areas and to replace any diseased or dead plants for a period of two years.

(i) The Waterways Protection Precinct shall be rehabilitated for its environmental values. The revegetation of this area is to be maintained by the individual landowners of the proposed lots through a binding agreement.

(j) On each lot denuded of natural vegetation by previous agricultural clearing, Local government may require on each lot as a condition of building approval, the planting and maintenance of 100 native trees capable of growing to at least three metres in height. The planting shall be concentrated around the proposed buildings and between the street alignment and the building setback line.

(k) A well licence must be obtained from the Water and Rivers Commission prior to the construction of a well or bore to draw ground water.

(l) Fencing within the area shall retain the rural character of the area and the use of fibro cement sheeting, metal sheeting, masonary walls or wooden pickets as boundary fencing is prohibited.

(m) The owner or subdivider of the land shall inform prospective purchasers of land in this area of those provisions relating to the land and such other provisions of the Scheme that may affect it.

(n) All development shall be constructed of non-reflective building materials which are in harmony with the rural landscape character of the area as determined by Local government.

(o) Local government and the Department of Environmental Protection may request, at the subdivision stage, that the subdivider undertake the preparation and implementation of a Management Plan for Rosamel Swamp and surrounds, which will need to include a 50 metre conservation buffer and appropriate fencing to the satisfaction of the Environmental Protection Authority.

(p) Prospective purchasers of lots abutting Old Coast Road should be aware that there is a potential for traffic noise to be generated from Old Coast Road.

(q) Prospective purchasers of lots affected by the 500 metre off-site industrial buffer established for the abattoir located on Lot 26 Rosamel Road, Parkfield, are advised that there is a potential for land within this buffer to be affected by the abattoir operations, primarily by odours, and that no residential or other sensitive uses will be permitted within this buffer area.

4.5 AREA 5 – RAYMOND ROAD, ROELANDS

4.5.1 Subdivision and Development Criteria

Subdivision shall be generally in accordance with the attached Subdivisional Development Plan (Drawing No. 3663-1) endorsed by the Shire Clerk.

4.5.2 The Local government will recommend to the WA Planning Commission that a minimum lot size of 2 hectares should apply.

4.5.3 Existing creeks and drainage lines shall be maintained and included within Recreation Reserves.

4.5.4 Fencing within the area shall retain the rural character of the area and the use of fibro cement sheeting, metal sheeting or wooden pickets as boundary fencing is prohibited.

4.5.5 Residential occupation of any lot will not be permitted unless a potable water supply is available to the lot. Each dwelling shall be provided with a supply of potable water from a rainwater storage system with a minimum capacity of 92,000 litres to the satisfaction of Local government.

4.5.6 As a condition of development approval, the Local government shall require the planting and maintenance of 20 native trees capable of growing to at least 3 metres in height for each hectare or part of a hectare of the area of the lot. The planting shall be concentrated –around the proposed buildings and between the front setback line and the front boundary.

4.5.7 No installation for the disposal of waste water or effluent shall be located closer than 100 metres to the high water mark of a definable water course or creek. Effluent disposal systems to have a minimum 2 metre vertical clearance from the highest known water table or bedrock.

4.5.8 No dwelling house, outbuilding or structure shall be constructed unless it is within a building envelope defined on the Subdivisional Development Plan.

4.5.9 Where, for the purpose of retaining natural flora, sound environmental reasons or the physical constraints of a site dictate, Local government may set an alternative building envelope.

4.5.10 On Lots 51, 44, 37, and 36 Local government shall require landowners to erect and maintain a fence of satisfactory standard in order to protect the escarpment and exclude livestock therefrom.

4.5.11 With the intention of preventing land degradation Local government may, with the advice of the Department of Agriculture, require removal of, or reduction in the number of, stock on any lot within the zone.

4.5.12 Notwithstanding paragraph 4.5.6 above, Local government shall, at the time of subdivision, require the planting and maintenance of the equivalent of 100 trees (per hectare) capable of growing to at least 3 metres in height within the Tree Planting Areas identified on the Subdivisional Development Plan. Revegetation of the escarpment area shall be to the satisfaction of the Western Australian Department of Agriculture. No person shall remove any trees within the Tree Planting Areas unless the prior consent of Local government is first obtained.

4.5.13 The Subdivisional Development Plan defines Vegetation Preservation Areas within which no person shall remove any trees unless the prior consent of Local government is first obtained.

4.5.14 The owner or subdivider of the land shall inform prospective purchasers of land in this area of those provisions relating to the land and such other provisions of the Scheme that may affect it.

4.5.15 Local government shall not give Development Approval for the agistment or the stabling of horses,. Or the keeping of livestock on any lot, unless the Department of Agriculture has formally advised that it is satisfied that the soil conditions and type of vegetation existing on a particular lot within Area 5 is capable of supporting such a use.

4.5.16 The developer is required to maintain the revegetated areas, and to replace any diseased or dead plants for a period of two years.

4.5.17 Land Use Controls

None additional to the Zoning and Development Table and Clause 5.3 except that the keeping of livestock on Lots 52, 50, 43, and 38 is prohibited.

4.6 AREA 6 – CLIFTON ROAD, BRUNSWICK

The area shown on the Scheme Map to the north east of the junction of Clifton Road and Bunbury Highway.

4.6.1 Subdivision and Development Criteria

Subdivision shall be generally in accordance with the attached Subdivisional Development Plan (Drawing No. 1929-1) endorsed by the Shire Clerk.

4.6.2 The Local government will recommend to the WA Planning Commission that a minimum lot size of 1.5 hectares should apply.

4.6.3 Existing creeks and drainage lines shall be maintained and protected by easements in favour of the Shire.

4.6.4 Fencing within the area shall retain the rural character of the area and the use of asbestos, metal sheeting or wooden pickets as boundary fencing is prohibited.

4.6.5 Residential occupation of any lot will not be permitted unless a potable water supply is available to the lot. The Local government may agree to a 92,000 litre rainwater storage tank.

4.6.6 As a condition of development approval, the Local government shall require the planting and maintenance of 20 native trees capable of growing to at least 3 metres in height for each hectare or part of a hectare of the area of the lot. The planting shall be concentrated around the proposed buildings and between the front setback line and the front boundary.

4.6.7 No installation for the disposal of waste water or septic tank effluent shall be located closer than 100 metres to the centreline of a definable water course or creek without approval from the Shire and the health Department of Western Australia.

4.6.8 No dwelling house, outbuilding or structure shall be constructed unless it is within a building envelope defined on the Subdivisional Development Plan.

4.6.9 Where, for the purpose of retaining natural flora, sound environmental reasons or the physical constraints of a site dictate, Local government may set an alternative building envelope.

4.6.10 Local government shall not give Development Approval for the agistment or the stabling of horses, or the keeping of livestock on any lot, unless Agriculture WA has formally advised that it is satisfied that the soil conditions and type of vegetation existing on a particular lot within Area 6 is capable of supporting such a use. Notwithstanding this provision, the following stocking rates apply.

(a) A maximum of one (1) horse per two (2) ha lot.

(b) A maximum of two (2) horses per five (5) ha lot.

(c) No stocking is permitted on Lots 6 to 12 and Lots 16 to 19.

4.6.11 On lots 14, 15 and 16 Local government shall require landowners to erect and maintain a fence of satisfactory standard in order to protect the escarpment and exclude livestock therefrom.

4.6.12 With the intention of preventing land degradation Local government may, with the advice of Agriculture WA require removal of, or reduction in the number of, stock on any lot within the zone.

4.6.13 Notwithstanding paragraph 4.6.6 above, Local government shall, at the time of subdivision, require the planting and maintenance of the equivalent of 100 trees (per hectare) capable of growing to at least 3 metres in height within the Tree Planting Areas identified on the Subdivisional Development Plan. Revegetation of the escarpment area shall be to the satisfaction of Agriculture WA. No person shall remove any trees within the Tree Planting Areas unless the prior consent of Local government is first obtained.

4.6.14 The Subdivisional Development Plan defines Vegetation Areas within which no person shall remove any trees unless the prior consent of Local government is first obtained.

4.6.15 The owner of subdivider of the land shall inform prospective purchasers of land in this area of those provisions relating to the land and such other provisions of the Scheme that may affect it.

4.6.16 The developer is required to maintain the revegetated areas, and to replace any diseased or dead plants for a period of two years.

4.6.17 A strategic firebreak shall be created prior to subdivision and maintained by the landowners to the satisfaction of Local government along the escarpment, adjacent to the flood plain.

4.8 AREA 8 – FORESTRY ROAD AND MYALUP ROAD *AMD 24 GG 9/11/99*

The area shown on the Scheme Map located between Forestry Road and Myalup Road and incorporating Wellington Locations 5061, Part 2166, Part 2167, 1026, 1104, 1131 and Portion of Reserve 20331.

4.8.1 Subdivision shall generally be in accordance with the Subdivision Guide Plan (Plan No. 97-21) endorsed by the Chief Executive Officer.

4.8.2 The Local government will recommend to the Western Australian Planning Commission that a minimum lot size of 2ha should apply. The Local government may recommend minor variations to the Subdivision Guide Plan.

4.8.3 At the subdivision stage, Local government may request the Commission impose a condition requiring preparation of a drainage plan for the area. Such a plan will require the approval of both Local government and the Waters and Rivers Commission. Any changes to the existing drainage system shall be designed above the "Annual Average maximum Groundwater Level" and shall provide for:

- protection of existing agricultural drains;
- protection of existing wetlands both on site and on adjoining properties; and
- suitable separation from groundwater levels during winter.

Should the drainage system be modified to the detriment of adjacent or surrounding property, Local government may request the landowner reinstate the drainage system at his/her own expense to Local government's specification and satisfaction. Alternatively, Local government may undertake the remedial work itself and recover the cost from the landowner.

4.8.4 Boundary fencing shall be of a rural character such as post and strand. Solid fencing, pickets or metal sheeting shall only be permitted in proximity to buildings where Local government determines that it will not adversely impact on the rural character of the area.

4.8.5 The keeping of livestock shall be restricted to fenced pastured areas of the lot. Animal numbers shall not exceed the stocking rates recommended by Agriculture WA. Horses shall not be permitted on Lots 1, 2, 3, 4, 5, 15, 20 and 21 as shown on the Subdivision Guide Plan.

4.8.6 With the intention of preventing land degradation, Local government may, with the advice of Agriculture WA, require removal of, or reduction in the number of stock on any lot within the zone.

4.8.7 Utilisation of groundwater is restricted to 1500m3/lot/year for domestic purposes and irrigation of up to 0.2 hectares of land, which includes domestic gardens.

Irrigated areas/domestic gardens shall be setback 50 metres from wetland areas.

4.8.8 Buildings and structures shall be set back eighty metres from Forestry and Myalup Road and a minimum of fifteen metres from all other boundaries.

Buildings, structures (other than fences) and effluent disposal systems shall not be permitted within Development Exclusion Areas as shown on the Subdivision Guide Plan.

4.8.9 Residential occupation of any lot will not be permitted until a potable water supply is available to the lot. Each dwelling shall be provided with a supply of potable water from a rainwater storage system with a minimum capacity of 90 000 litres to the satisfaction of Local government.

4.8.10 Provision of on-site effluent disposal shall be the responsibility of the individual landowner.

The disposal of liquid and/or solid wastes shall be carried out with an effluent disposal system approved by Local government and the Health Department of Western Australia. Given the soil types and groundwater levels in winter, Local government shall require the use of amended soil type effluent disposal systems such as Ecomax/ATU systems.

All effluent disposal systems shall be set back a minimum of 30m from agricultural drains and 50m from wetlands shown on the Subdivision Guide Plan.

4.8.11 No clearing of vegetation shall occur except for:

(a) clearing to comply with the requirements of the Bush Fires Act 1954 (as amended);

(b) clearing may reasonably be required to construct an approved building and curtilage;

(c) trees that are dead, diseased or dangerous;

(d) clearing to gain vehicular access to an approved dwelling or any other clearing which may be approved by the Local government;

(e) clearing required to establish a low fuel buffer.

4.8.12 At the time of subdivision, Local government may request the Commission impose a condition requiring replanting of areas shown as "Proposed Replanting" on the Subdivision Guide Plan.

4.8.13 Additional replanting may be required to Local government's specification and satisfaction at the building approval stage.

4.8.14 Local government may request the Commission impose a condition at the time of subdivision for the preparation of a Fire Management Plan to the satisfaction of Local government in consultation with CALM and the Bush Fire Service.

4.8.15 As part of the Fire Management Plan, Local government may request the Commission impose a condition at the time of subdivision for the construction of strategic fire breaks as shown on the Subdivision Guide Plan.

Where a lot is traversed by a strategic firebreak as shown on the Subdivision Guide Plan, the owner of the lot shall maintain such firebreak to the satisfaction of Local government. Fencing and/or gates across the strategic firebreak shall only be permitted at the discretion of and to the satisfaction of Local government and the Bush Fires Board.

4.8.16 Low fuel buffers of non-flammable groundcover, at least 20m wide shall be established and maintained around all buildings.

4.8.17 The subdivider shall make arrangements to the satisfaction of Local government to ensure prospective purchasers are aware of:

- the fire management guidelines of the Homeowners Bushfire Survival Manual and the Australian Standard 3959 "Construction of Buildings in Bushfire Prone Areas".
- the flammable nature of the nearby pine forest, the need to carry out prescribed burning and potential for associated smoke to annoy residents; the noise and dust associated with activities such as pruning, thinning, spraying, harvesting, ripping, mounding and movement of log trucks; the visual impact associated with harvesting of the pines and possible change in species of trees to be replanted.

4.8.18 Local government may request the Commission impose a condition at the subdivision stage requiring that water for fire fighting purposes be available. This may take the form of a minimum 50,000 litre storage tank (including a continuous fill mechanism capable of providing 450 litres per minute at the outlet or standpipe).

4.8.19 All buildings shall be set back a minimum of 150m from the pine plantation located to the west of the subject land. Subject to the provision of a 20m low fuel buffer area around a residence and an effective sprinkler system to dampen buildings and their surrounds, the setback from the pine plantation may be reduced to a minimum of 100m. The sprinkler system to serve each residence is to have a fireproof main and to be operated from an independent pump system.

4.8.20 The owner or subdivider of the land shall inform prospective purchasers of land in this area of those provisions relating to the land and such other provisions of the Scheme that may affect it.

4.9 AREA 9 – RAYMOND ROAD (EAST), ROELANDS *AMD 32 GG 5/11/99*

4.9.1 Subdivision shall generally be in accordance with the Subdivision Guide Plan (Plan No. 98041P-04) dated October 1999, attached to the Scheme Amendment Report (Amendment No. 32).

4.9.2 The Local government will recommend to the Western Australian Planning Commission that a minimum lot size of 2 hectares should apply.

4.9.3 Boundary fencing shall be post and four strand wire, or post and ringlock or similar as approved by Local government. Solid fencing such as fibro cement sheeting, metal sheeting, masonary walls or wooden pickets as boundary fencing is prohibited and only permitted in proximity to buildings where Local government determines that it will not adversely impact on the rural character of the area.

4.9.4 Residential occupation of any lot will not be permitted unless a potable water supply is available to the lot. Each dwelling shall be provided with a supply of potable water from a rainwater storage system with a minimum capacity of 92,000 litres to the satisfaction of Local government.

4.9.5 Disposal of on-site effluent is to be to the specification and satisfaction of the Local Government and the Health Department of Western Australia. In some instances alternative effluent disposal systems with a nutrient retention capacity may be required.

4.9.6 The minimum vertical clearance between the bottom of any conventional leach drain and the highest known water table or bedrock shall be 2.0 metres.

4.9.7 No dwelling house, outbuilding or structure shall be constructed unless it is within a building envelope defined on the Subdivision Guide Plan.

4.9.8 Where for the purpose of retaining natural flora, sound environmental reasons or the physical constraints of a site dictate, Local government may set an alternative building envelope.

4.9.9 On the proposed 2.0493 ha lot, as shown on the Subdivision Guide Plan (Plan No. 98041P-04) dated October 1999, the contours within the building envelope area may exceed a 1:10 slope. As such standard building methods may not be appropriate and Local government may require specific building methods to be implemented.

4.9.10 Local government will request at the subdivision stage the developer to plant and maintain the equivalent of 100 trees (per hectare) capable of growing to at least 3 metres in height within a 20 metre buffer along the Raymond Road and South Western Highway frontages and the escarpment which separates the flood plain from the balance of the land, to the specifications and satisfaction of Local government.

4.9.11 The developer is required to maintain the revegetated areas and to replace any dead or diseased plants for a period of two years.

4.9.12 Local government may require lot owners to erect and maintain a fence of satisfactory standard in order to protect the escarpment and exclude stock therefrom.

4.9.13 No trees or substantial vegetation shall be felled or removed from the site except where

- it is inside the approved building envelope;
- it is required to establish a firebreak or driveway; or
- trees are dead, diseased or dangerous.

4.9.14 As a condition of development approval, Local government shall require the planting and maintenance of 20 native trees capable of growing to at least 3 metres in height for each hectare or part of a hectare of the area of the lot. The planting shall be concentrated around the proposed buildings and between the front setback line and the front boundary.

4.9.15 Local government shall not give Development Approval for the agistment or the stabling of horses, or the keeping of livestock on any lot, unless Agriculture Western Australia has formally advised that it is satisfied that the soil conditions and type of vegetation existing on a particular lot is capable of supporting such a use.

4.9.16 With the intention of preventing land degradation Local government may, with the advice of Agriculture Western Australia, require the removal of, or reduction in the number of, stock on any lot within Area 9.

4.9.17 Local government may request the Western Australian Planning Commission at the time of subdivision to advise prospective purchasers of those lots which include an area of the 1 in 100 year flood plain that in winter this portion of land may be affected by flooding.

4.9.18 The estimated 1 in 100 year flood level is at 9m AHD. Local government may request the Western Australian Planning Commission at the time of subdivision to impose a condition requiring the land within the 1 in 100 year flood level to be noted on the titles and that the land may be susceptible to water erosion caused by floodwater and inundation.

4.10 AREA 10 – HINGE ROAD, HARVEY

AMD 30 GG 25/2/00

The area shown on the Scheme Map at the junction of Hinge Road and South Western Highway, Harvey.

4.10.1 Subdivision and Development Criteria

(a) subdivision to be generally in accordance with the subdivision guide plan;

(b) the drainage channels/indicated on the drainage plan will be set aside as easements/reserves as appropriate;

(c) lots will be connected to a reticulated sewerage scheme;

(d) lots will be connected to a reticulated water supply scheme;

(e) buildings will be confined to the areas indicated on the subdivision guide plan as building envelopes, or as varied to the satisfaction of Local government;

(f) minimum floor levels for buildings on the proposed lots will be the greater of a minimum of 1.25 metres of fill or the level needed for connection to the sewer network;

(g) fencing of the lots shall retain the rural character of the area and the use of fibro cement, metal sheeting or wooden pickets for boundary fencing is prohibited.

(h) the clearing of trees between the front setback line and the front boundary requires the approval of Local government;

(i) as a condition of approving development on proposed Lot 801, Local government will require planting and maintenance of native trees along the southern boundary capable of growing to at least 3 metres in height.

4.10.2 Land Use Controls

As for the Zoning and Development Table and Clause 5.3.

The keeping of horses will be permitted subject to no more than 1 horse/hectare. The keeping of grazing animals including horses shall be subject to the prior approval of Local government. Annual stocking rates shall not exceed the stocking rates recommended by Agriculture, W.A.

With the intention of preventing land degradation, Local government may, with the advice of Agriculture WA, require removal of, or reduction in the number of stock on any lot within the zone.

4.11 AREA 11 – RAYMOND ROAD (NORTH EAST), ROELANDS *AMD 41 29/1/02*

4.11.1 Subdivision shall generally be in accordance with the Subdivision Guide Plan attached (Plan No 16112000) dated November 2000, attached to the Scheme Amendment Report (Amendment No. 41).

4.11.2 No further subdivision to that shown on the Subdivision Guide Plan will be supported by Local government.

4.11.3 Boundary fencing shall be post and four strand wire, or post and ringlock or similar as approved by Local government. Solid fencing such as fibro cement sheeting, metal sheeting, masonry walls or wooden pickets as boundary fencing is prohibited and only permitted in proximity to buildings where Local government determines that it will not adversely impact on the rural character of the area.

4.11.4 Residential occupation of any lot will not be permitted unless a potable water supply is available to the lot. Each dwelling shall be provided with a supply of potable water to a rainwater storage system with a minimum capacity of 92,000 litres to the satisfaction of Local government.

4.11.5 Local government shall request, at the subdivision stage, the subdivider prepare a building envelope plan which clearly indicates an area suitable for onsite effluent disposal and complies with the minimum set back requirements in clause 4.11.6 below.

4.11.6 The building envelopes shall be setback not less than 10 metres from all property boundaries except from Old Raymond Road where development shall be setback not less than 5 metres.

4.11.7 No dwelling house, outbuilding or structure shall be constructed unless within an approved building envelope.

4.11.8 Where for the purpose of retaining natural flora, sound environmental reasons or the physical constraints of the site dictate, Local government may set an alternative building envelope.

4.11.9 All lots to be serviced by an “approved” alternative on-site effluent disposal system designed for long term usage with phosphorous retaining ability as recommended by the Health Department of Western Australia and the Local Authority.

4.11.10 As a condition of subdivision a drainage and effluent disposal management plan will be prepared to the satisfaction of the Health Department of WA and the Local Shire that indicates that:

(a) all lots can achieve a minimum 500mm vertical separation between the winter water table and natural ground level; and

(b) all effluent disposal systems can achieve a minimum 30m horizontal separation from any permanent water course.

4.11.11 Local government will request at the subdivision stage, the developer to plant and maintain the equivalent of 100 trees (per hectare) capable of growing to at least 3m in height within a 20m buffer along the Raymond Road frontage.

4.11.12 Local government shall request, at the subdivision stage, the subdivider plant 20 native trees capable of growing to at least 3m in height for each hectare or part of a hectare of the area of the lot. The planting shall be concentrated around proposed buildings and between the front setback line and the front boundary.

4.11.13 The developer is required to maintain the revegetated areas and to replace any dead or diseased plants for a period of two years.

4.11.14 No trees or substantial vegetation shall be felled or removed from the site, except where –

- It is inside the approved building envelope;
- It is required to establish a firebreak or driveway; or
- Trees are dead, diseased or dangerous.

4.11.15 Local government shall not give Development Approval for the agistment or the stabling of horses, or the keeping of livestock on any lot, unless Agriculture Western Australia has formally advised that it is satisfied that the soil conditions and type of vegetation existing on a particular lot is capable of supporting such as use.

4.11.16 With the intention of preventing land degradation, Local government may, with the advice of Agriculture Western Australia, require the removal of, or reduction in the number of, stock on any lot capable of supporting such a use.

4.11.17 Local government will recommend at the time of subdivision that a 0.1m Pedestrian Access Way be requested along Raymond Road frontage preventing vehicular access from that road.

4.11.18 Local government will request the Western Australian Planning Commission that as a condition of the subdivision approval, the applicant be required to make satisfactory arrangements with the Local Authority to ensure prospective purchasers are advised of the special provision which apply in Special Rural – AREA 11 – RAYMOND ROAD EAST.

4.12 AREA 12 – WATERLOO ROAD, ROELANDS EAST

4.12.1 Despite the minimum lot size specified in Table 1, the Local Government may support a minimum average lot size of 4000sqm and an absolute minimum lot size of 2000sqm. The design has been guided by a Landscape assessment report to minimise the adverse impacts on the landscape values of the area.

4.12.2 Subdivision to be in accordance with an approved Subdivision Guide Plan endorsed by the Shire of Harvey and the WAPC.

4.12.3 No further subdivision of the lots shown on the Subdivision Guide Plan shall be permitted.

4.12.4 Prior to subdivision approval, the subdivider is to prepare an Urban Water Management Plan that reflects the endorsed Subdivision Guide Plan to the satisfaction of the Local Government and the Department of Water.

4.12.5 The subdivider will be required, as a condition of subdivision, to implement a Fire Management Plan as endorsed by fire and Emergency Services of Western Australia.

4.12.6 the subdivider will be required to upgrade Waterloo Road, from Government Road to the subdivideable area. The standard of upgrading will be determined to the Local government's satisfaction prior to subdivision.

4.12.7 A condition of subdivision approval will require a notification to be placed on title under Section 70A of the Transfer of Land Act to notify purchasers that the subject land is located adjacent to rural land and rural activity may have a nuisance effect on amenity.

4.12.8 A condition of subdivision approval will require a notification to be placed on title under Section 70A of the Transfer of Land Act to notify purchasers that the subject land is located adjacent to rural land and rural activity may have a nuisance effect on amenity.

4.12.9 A condition of subdivision approval will require a notification to be placed on title under Section 70A of the transfer of Land Act to notify purchasers that the subject land is located adjacent to a quarry on nearby Reserve 30354, and associated activities may have a nuisance effect on amenity including noise, vibration and heavy vehicle movements.

4.12.10 The subdivider is to submit, together with any subdivision application, a 'Sustainability Implementation Report', which details the targets and method of delivery in respect to 'sustainability outcomes' including:

- on-site power generation;
- on-site water capture and re-use;
- re-use of grey water; and
- correct housing orientatio0n for passive heating and cooling.
- A condition of subdivision may be imposed in order to achieve implementation of the agreed outcomes.

4.13 AREA 13 – HERBERT ROAD, HARVEY (Northern portions of Lots 25 and 92 Herbert Road, Harvey) *AMD 74 GG 25/01/11*

4.13.1 Subdivision and Development is to be in accordance with a Plan of Subdivision endorsed by the Shire of Harvey and the WAPC.

4.13.2 A minimum street setback shall be 10m.

4.13.3 A minimum side and rear setback shall be 6m unless otherwise stipulated on subdivision plan.

4.13.4 Residential land uses and associated outbuildings shall be restricted to the area defined "building envelope" on the Plan of Subdivision.

4.13.5 Hobby farm activities shall be located at the rear of the building envelope.

4.13.6 Prior to any subdivision occurring, the existing dairy located upon Lot 120 is to cease operation and be decommissioned to the satisfaction of the Local Government.

4.13.7 A 70A Notification be placed on titles as follows:

"Portions of the lot are located within the Harvey WWT odour area. Under normal operating conditions there will be minimal odour emanating from the Plant. However, during maintenance and abnormal operating or weather conditions an increased level of odour may occur that will be a nuisance to persons located if within the odour buffer area."

4.13.8 The Local Government will request that the WAPC impose a condition of subdivision requiring that, the subdivider amalgamate balance lots 25 and 92.

4.13.9 Each lot shall be connected to a potable reticulated water supply.

4.13.10 Landowners shall make appropriate arrangements for the provision of on-site effluent disposal systems to the specifications and satisfaction of the Local Government.

4.13.11 The Local Government will request the WAPC to impose a condition of subdivision requiring that the subdivider install a Rural Water Supply point in each lot to the satisfaction of Harvey Water.

4.13.12 The subdivider will be required to upgrade Herbert Road. The standard of upgrading will be determined to the local government's satisfaction prior to subdivision.

4.13.13 No trees or substantial vegetation shall be felled or removed from the site except where:

(i) Required for approve development works;
(ii) Required to fulfil the provisions of an approved Fire Management Plan;
(iii) Required by a Local government fire break order; or
(iv) Trees are dead, diseased or dangerous.

4.13.14 The Local Government will request that the WAPC impose a condition of subdivision requiring the preparation and implementation of a tree planting programme. Tree planting should be concentrated around the building envelope.

4.13.15 The Local Government will request that the WAPC impose a condition of subdivision requiring the implementation of an approved fire management plan to the satisfaction of the Local Government.

4.13.16 Fencing within the area shall retain the rural character of the area and the use of fibro cement, metal sheeting or wooden pickets for boundary fencing is prohibited.

SCHEDULE 5 - ADDITIONAL REQUIREMENTS – INDUSTRIAL ZONES

5.1 AREA 1 – AUSTRALIND LIGHT INDUSTRIAL ESTATE

Description of Land:

Part Lot 43 Ditchingham Place (or any subdivided portion thereof) and Part Lot 3 Paris Road (or any subdivided portion thereof) both being portions of Wellington Location 1.

1. Unless in an area set aside for display purposes, a person shall not place or stock any fuel or raw material or product or waste of manufacture, in front of a building line other than the building line of a service station.

2. Local government shall not approve the erection of more than one sign on any lot and no sign shall exceed 4m^2 in area.

3. The facade or facades of any building as seen from an adjoining road shall be constructed of brick unless in the opinion of Local government, the design and materials of the proposed buildings are of sufficiently high standard to complement the locality.

4. In an accessible position at the rear of the building shall be provided a gated enclosure of not less than 10m^2 in area, with a concrete base, upon which shall be provided a rubbish receptacle of a size nominated by Local government and an incinerator complying with the Bush Fires Act.

5. The use of pre-used materials for visible structures shall be prohibited.

6. Subdivision shall generally be in accordance with the subdivision guide plan certified by the Shire Clerk.

7. In addition to the Zoning and Development Table the following uses may be permitted:-

   - Service Premises - P
   - Veterinary Hospital - AP
   - Private Recreation - P
   - Veterinary Clinic - P
   - Health Centre - P

8. Local government shall require payment by the landowner or subdivider of a per lot contribution for the construction of the East Australind-Eaton link bridge, to be determined by Local government, the Ministry for Planning and Main Roads at the time of subdivision. Where the owner is aggrieved by the decision of the Local government regarding the imposition of the levy or the method of calculation and distribution of construction costs, an appeal to the Minister for his determination may be made and the decision of the Minister shall be final.

9. *DELETED BY AMD 67 GG 23/1/09*

10. The owner or subdivider of the land shall inform prospective purchasers of land in this area of those provisions relating to the Australind Light Industrial Estate as contained in Schedule 5 of the Scheme Text and such other provisions of the Scheme that may affect it.

11. The further subdivision of Pt Lot 3 shall not be permitted until such time as a comprehensive drainage plan has been prepared to the satisfaction of Local government.

5.2 AREA 2 – Deleted by Amendment No. 114.
Refer to Kemerton Strategic Industrial Area Structure Plan. *AMD 114 GG 04/07/17*

5.3 AREA 3 – AUSTRALIND LIGHT INDUSTRIAL AREA (RESTRICTED) *AMD 67 GG 23/1/09*

1. No land-use within the restricted area as shown the approved Subdivision Guide Plan shall be permitted as a right. All uses listed under Table 16- Zoning and Development Standards of the Scheme require the special approval of Local government. When making a determination Local government shall have regard to:

   a) Environmental Protection Authority's (EPA) Guidelines for separation distances between industrial and sensitive landuses;

   b) Impact on the overall amenity of the area; and

   c) Adjoining light and service industries.

2. Where an application does not meet the requirements above;

   a) A scientific study, based on site and industry specific information must be presented to demonstrate to Local government that any variation will not result in unacceptable impacts to the area; or

   b) The application be modified to reduce emissions through engineering controls such as process design, process enclosure or other means.

3. In addition to Zoning and Development Table, Local government may consider the following uses:

   - Services Premises
   - Veterinary Hospital
   - Private Recreation
   - Veterinary Clinic
   - Health Centre

4. Prior to the approval of any development being approved within the Area 3 precinct, design guidelines shall be prepared and approved by Local government. The design guidelines shall address the following matters:

   - Building setbacks
   - Building height
   - Building materials
   - Restrictions on transportable buildings and sea containers
   - Open space and landscaping
   - Vehicle crossovers — design, treatment and materials
   - Location and nature of parking areas
   - Fencing — style and materials
   - Storage areas
   - Other design elements that may improve the appearance and amenity of the locality

5. Unless in an area set aside for display purposes, a person shall not place or stock any fuel or raw material or product or waste or manufacture, in front of a building line other than the building line of a service station.

6. Local government shall not approve the erection of more than one sign on any lot and no sign shall exceed $4m^2$ in area.

7. The façade or facades of any building as seen from an adjoining road shall be constructed of brick unless in the opinion of Local government, the design and materials of the proposed buildings are of sufficiently high standard to compliment the locality.

8. In an accessible position at the rear of the building shall be provided a gated enclosure of not less than $10m^2$ in area, with a concrete base, upon which shall be provided a rubbish receptacle of a size nominated by Local government and an incinerator complying with the Bush Fires Act.

9. The use of pre-used materials for visible structures shall be prohibited.

10. Subdivision shall generally be in accordance with a subdivision guide plan certified by the Shire Clerk and endorsed by the Western Australian Planning Commission.

11. Local government shall require payment by the landowner or subdivider of a contribution as per the Shire of Harvey and Shire of Dardanup Joint Town Planning Scheme No.1.

12. The owner or subdivider of the land shall inform prospective purchasers of land in this area of those provisions relating to the Australind Light Industrial Estate as contained in Schedule 5 of the Scheme Text and such other provisions of the Scheme that may affect it.

13. The further subdivision of Pt Lot 3 shall not be permitted until such time as a comprehensive drainage plan has been prepared to the satisfaction of Local government.

14. The owner or subdivider is required to establish a landscape buffer to provide a visual screening along the Australind Bypass Road. The land required for the landscape buffer is to be of a sufficient width as determined by the Western Australian Planning Commission.

SCHEDULE 6 - POLICIES ON OUTLINE PLANNING AREAS

AMD 39 GG 15/9/00
Clause 5.5 applies.

6.1 AREA 1: HARVEY CENTRAL BUSINESS DISTRICT

(a) Development within the area bounded by Uduc Road, Becher Street, Gibbs Street and Hayward Street, should generally conform with the concept plan forming part of the amending documents and no individual site development should encumber upon the nominated access points;

(b) development shall conform with the Zoning and Development Tables; and

(c) development and associated carparking and landscaping shall conform with the townscape plan adopted by Local government.

6.2 AREA 2: LOTS 21, 26, 27 AND 28 CLIFTON CLOSE ROAD AND CLIFTON CLOSE, AUSTRALIND *AMD 39 GG 15/9/00*

(a) Subdivision and development shall generally be in accordance with the Outline Development Plan dated June 2000 (Plan No. 99028P-06).

(b) Lots 21 and 27 have been identified by the Education Department as being required for a possible high school.

(c) Residential R30 density development is only applicable to those sites designated 'R30' on the Outline Development Plan.

(d) Local government will not support development within a 400 metre buffer of the Wastewater Treatment Plan site, situated north of Ditchingham Place, prior to the decommissioning of the Treatment Plan or the written approval of the Water Corporation that the proposed use is acceptable.

(e) Direct access onto Kingston Drive is not permitted, with the exception of internal subdivision roads shown on the Outline Development Plan.

6.3 AREA 3: LOTS 1 AND 2 LUCY VICTORIA AVENUE, AUSTRALIND *AMD 82 GG 25/9/12*

(a) Subdivision and development is to be generally in accordance with a Structure Plan endorsed by the Shire of Harvey and WAPC.

(b) The Structure Plan is to be accompanied by a supporting –

- Traffic Management Study, which addresses traffic efficiency at the intersection of Old Coast Road and Lucy Victoria Avenue, and any intersection between the development site and Lucy Victoria Avenue.
- Local Water Management Strategy which addresses pollution prevention and risk management during design, construction, operation and maintenance of development related to –
  - Stormwater management;
  - Acid Sulphate Soil Management;
  - Groundwater levels and flood risk.
- Biophysical Assessment which provides for a suitable wetland boundary and buffer and identifies wetland vegetation to be retained.

(c) The required studies are to provide guidance on the amount of development that can be sustainably accommodated on the site, which is to be shown on the Structure Plan, together with the following –

- Required and proposed fill levels;
- Location, design and type of retaining proposed;
- Building design, materials, height and orientation;
- Best practice methods of minimising non-renewable energy and potable water usage;
- Methods of minimising exposure of residents to mosquito borne viruses;
- Appropriate design response(s) to the intersection of Old Coast Road and Lucy Victoria Avenue and the adjoining Regional Open Space;
- Proposed strata subdivision layout in accordance with the R-Codes of Western Australia;
- Allocation of common property, visitor parking and vehicle manoeuvring; and
- Proposed landscaping within and external to the site utilising local endemic species.

(d) Uniform fencing shall be constructed on the boundary of lots abutting public open space, Old Coast Road and Lucy Victoria Avenue, in accordance with the Structure Plan.

(e) Access to the site shall be via a single crossover onto Lucy Victoria Avenue to the satisfaction of the Shire of Harvey.

(f) Residential development shall not be supported unless connected to reticulation sewerage.

SCHEDULE 7 - SCHEDULE OF ADDITIONAL USES

Clause 4.7 applies

		STREET LOCALITY	PARTICULARS OF LAND	ONLY USE PERMITTED
A1	1.	South Western Highway Wokalup	Lot 48	Eating House, Craft Studio, Caretakers Accommodation and Shop (maximum area 25m^2). Development shall generally conform with the sketch plan forming part of the amending documents. Site cover shall not exceed 50%.
A2	2.	Clifton Close Australind	Wellington Location 1	Church Presbytery Hall and Parish Centre
A3	3.	South Western Highway, Harvey	Lot 7	Restaurant & Souvenir and Craft Sales
A4	4.	Old Coast Road Australind	Lot 203	Office but excluding additional medical office and ancillary medical office use.
A5	5.	Feast Place, Leschenault *AMD 16 GG 14/11/97*	Lot 6	Cattery Additional Use – Cattery subject to the following conditions, notwithstanding any other requirements of the Scheme. 1. Development to be located in accordance with the Concept Development Plan dated 10th December, 1996. Modifications to the Concept Development Plan are to be advertised in accordance with the Planning Scheme's Section 2.3 'Advertising of Applications'. 2. No more than 20 cats to be housed at any given time on the subject land. 3. The owner/and or occupier shall take steps to the satisfaction of Local government to ensure that no noise or other disturbances emanates from the premises which would be likely to cause a nuisance to the adjoining occupiers or are detrimental to the amenity of the neighbourhood. 4. The use and development must be to the satisfaction of Local government, addressing the impact of: (i) transporting materials, goods or commodities to or from the land; (ii) appearance of any building, works or materials; (iii) emissions of noise, artificial light, vibration, smell, fumes, vapour, steam, soot, ash, dust, waste, water, waste products, grit or oil; and (iv) presence of vermin.

SCHEDULE 7 - SCHEDULE OF ADDITIONAL USES (Cont'd)

Clause 4.7 applies

		STREET LOCALITY	PARTICULARS OF LAND	ONLY USE PERMITTED
A5		Feast Place, Leschenault (Cont'd) *AMD 16 GG 14/11/97*	Lot 6	5. Local government shall apply such other development standards to a proposal, the subject of an application for Development Approval as it thinks fit, providing such standards are not less than that pertaining to similar uses under the Scheme.
A6	6.	South Western Highway, Wokalup *AMD 28 GG 18/5/99* *AMD 50 GG 13/9/02*	Pt Lot 36	1. As per "Tourist" zoning table plus "Cheese" Manufacturing and Associated Works, Shop (selling locally made produce). 2. Prior to development an effluent management plan is required to be produced and approved by the Department of Environmental Protection in consultation with Local government and the Health Department of WA. 3. The shop component is to be restricted to an area not greater than 50m^2 in area and must only offer for sale goods manufactured on the premises or other locally produced goods, as approved by Local government.
A6	6.	Young Street/Sir James Ave Harvey *AMD 33 GG 3/9/99*	Lot 60 & 61	* Restaurant (Max. seating capacity of 50 persons) * Art & Craft Studio
A7	7.	Lot 9 Swamp Road Benger *AMD 61 GG 26/5/06*	Lot 8 Wellington Loc 1	1. Service Station and incidental office. 2. The sale of any fuels and/or establishment of a cafeteria or restaurant are not permitted.
A8	8.	Paris Road Australind *AMD 43 GG 7/11/00*	Lot 96	Professional Office
A9	9.	Papps Road, Brunswick *AMD 69 GG 18/9/07*	Lot 16	Car Sales Premises (max of 5 motor vehicles for sale at any one time).
A10	10.	Ditchingham Place/Grand Entrance, Australind *AMD 90 GG 18/6/13* *AMD 120 GG 15/11/19*	Lots 62-68 Grand Entrance, Lots 69-72 Antila Way, Lot 82 The Promenade, Lot 9533 Ditchingham Place, portion of Lot 1 Grand Entrance & Lot 9600 Ditchingham Place. (Deposited Plans 402349, 412941, 415341)	Factory Unit Building Community Purpose Motor Vehicle Repair Station Car Wash Public Purpose Educational Establishment Produce Market
A11	11.	Grand Entrance, Australind *AMD 90 GG 18/6/13*	Portion of Lot 9010 (Deposited Plan 51961).	Eating House Fast Food Outlet Educational Establishment
A12	12.	Old Coast Road, Myalup *AMD 102 GG 8/10/13*	Lot 4857	The following uses are to be carried out within the 'Red barn' or in locations as to otherwise preserve the rural character of the land and its potential to sustain agricultural production – • Arts and photography studio for the purpose of making a selling products; • Tourist Retail (maximum floorspace of 250m^2 not leasable area);

SCHEDULE 7 - SCHEDULE OF ADDITIONAL USES (Cont'd)

Clause 4.7 applies

		STREET LOCALITY	PARTICULARS OF LAND	ONLY USE PERMITTED
				• Tourist information office; • Licensed Restaurant; • Eating House, including the sale of takeaway food; • Special events, function and concerts; • Public rest area facilities; • Brewery; • Animal petting enclosures; and • Tourist Accommodation (subject to preparation of a Detailed Area Plan in accordance with Clause 9.14.8).
A13	13.	Uduc Road, Harvey *AMD 107 GG 27/3/15*	Lot 114	Transport Depot Additional Use – Transport Depot subject to the following conditions, notwithstanding any other requirements of the Scheme. 1. Local government is required to adopt a Development Guide Plan for Lot 114 (& portion Lot 242). Local government may amend the plan where it considers this to be necessary. All development of the subject land shall comply with the Development Guide Plan (DGP) as adopted by Local government and any amendments thereto. 2. Prior to adoption of the DGP, the following matters are to be implemented to the satisfaction of Local government: a) a Noise Mitigation Plan is to be prepared and implemented in accordance with the recommendations of acoustic assessments No's 13110051-01, 02, 03 (Mar-May 2014) and is to include: • a noise/screening wall: and • night time departure/arrival of trucks from the front area of the additional use portion as indicated in 13110051-03 at all times b) a Landscaping/Visual screening Plan, incorporating a bund wall is to be prepared and implemented; c) a Drainage Management Plan is to be prepared and implemented; d) the Transport Depot, including any land required for vehicle manuevering and access, is to be bitumen sealed. 3. The Development Guide Plan is also required to address the following factors:

SCHEDULE 7 - SCHEDULE OF ADDITIONAL USES (Cont'd)

Clause 4.7 applies

		STREET LOCALITY	PARTICULARS OF LAND	ONLY USE PERMITTED
				a) Maximum number of vehicles permitted to be stored on the site; b) The proposed days and hours of operation of the transport depot use; c) The total number of employees to be accommodated; d) The type of vehicles and machinery to be parked on the land; and e) Estimated total number of vehicle movements to and from the property.
A14	14	Peterson Road Warawarrup *AMD 112 GG 15/9/15*	Lot 39	Transport Depot and incidental uses as permitted by the Shire of Harvey
A15	15	Ditchingham Place/Grand Entrance, Australind *AMD 120 GG 15/11/19*	Portion of Lot 1 Grand Entrance (Deposited Plan 415341)	Factory Unit Building Community Purpose Motor Vehicle Repair Station Car Wash Public Purpose Educational Establishment Produce Market Fast Food Outlet (Drive Through Coffee Shop only)
A17	17	Young Street, Harvey *AMD 123 GG 15/11/19*	Lot 1 (106)	Betting Agency

SCHEDULE 8 - RESTRICTED USES

Clause 4.7 applies.

		STREET LOCALITY	PARTICULARS OF LAND	ONLY USE PERMITTED
R1	1.	Rosamel Road Parkfield	Lot 26	Abattoir and holding paddocks with 200m of natural bushland between the building and the Old Coast Road.
R2	2.	Stanley road Leschenault	Lot 42	Industrial storage shed covering a maximum area of 18000m^2.
R3	3.	Rosamel Road Parkfield	Lot 2	Extension to Piggery.
R4	4.	Uduc Road Harvey	Lots 144, 146 and 149 of Korijekup 50A	Abattoir and holding paddocks with 30m of dense native vegetation between the buildings and Uduc Road and around the effluent lagoons.
R5	5.	Third Street Harvey	Lot 22	Fruit juice extraction business
R6	6.	Seventh Street Harvey	Lot 3	Abattoir
R7	7.	Kasten Road Brunswick	Lot 4	Restaurant/Art Gallery
R8	8.	Millar Street Yarloop	Lot 28	Machine Shop Permitted Land Use: X Machine Shop X Ancillary Office X Caretaker's Residence Development Restrictions: The machine shop is to be restricted to 1500 square metres of gross floor area unless the Local government is satisfied that the following conditions are met in which case a further 1000 square metres will be permitted: (i) comprehensive landscaping and revegetation; and (ii) the operation of the land use not adversely disturbed surrounding residents.
R9	9.	Third Street Harvey	Lot 4	Milk Processing Plant
R10	10.	South Western Hwy, Warawarrup	~~Lot 269~~ Portion of Lot 269 and 77 *AMD 106 GG 26/8/14*	Cement Works
R11	11.	Old Coast Road Australind	Lot 222	Tavern (5000m^2), Fast Food (500m^2), Shops with a maximum nett leasable area of 1800m^2, Parking and Landscaping, Office but excluding medical offices and ancillary medical office uses.
R12	12.	Old Coast Road Australind	Leschenault Location 23, Lot 5	1. Development in the Tourist zone shall be in accordance with a development plan approved by the Local government and Environmental Protection Authority. 2. No activity or development shall occur on the land zoned "Recreation" other than in accordance with a management plan approved by the Leschenault Inlet Management Authority.
R13	13.	Mardo Avenue Australind	Lot 221	Office, Bank, Professional Office and Parking
R14	14.	Lake Preston Road, Myalup	Lot 100	Thirty one strata titled lots in accordance with the Strata Bylaws adopted by Local government and the Ministry for Planning.

SCHEDULE 8 - RESTRICTED USES (Cont'd)

Clause 4.7 applies.

		STREET LOCALITY	PARTICULARS OF LAND	ONLY USE PERMITTED
R15	15.	Lake Preston Road	Lot 698	A 40 lot purple title subdivision. Development to be in accordance with the Deed of Covenant.
R16	16.	Old Coast Road, Myalup	Lot 7	Short Stay Chalet Park, Stables, Residential Accommodation, Recreation, Horse Agistment, subject to: 1. The development being generally in accordance with the Development Guide Plan signed by the Shire Clerk. 2. A chalet shall not be used for purposes other than short stay residential purposes and no person or group may be permitted to occupy a unit for more than three months cumulatively in any twelve month period. 3. A chalet shall be of a design and constructed in materials that will complement and enhance the rural character of the locality. 4. No chalet strata lot fronting the lagoon shall be used for stabling or agistment of horses. 5. Effluent disposal shall be by a method or methods approved by the Local government, Health Department of Western Australia and Environmental Protection Authority.
R17	17.	Mulgara Street, Australind Mardo Avenue, Australind *AMD 2 GG 25/2/97*	Lot 220 (3) and 207 (1) Lot 221 (9)	Professional Office, Office Medical Centre and Associated Ancillary Medical Uses, Banks, Carparking, Landscaping
R18	18.	Ditchingham Place, Australind *AMD 6 GG 15/8/00*	Portion of Wellington Location 1	***RESTRICTED USE DELETED BY AMD 57 GG 14/12/04***
R19	19.	Coalfields Road, Roelands *AMD 26 GG* 22/1/99	Portion of Lot 27	Car Parking, Eating House (maximum GLA 144m^2), Service Station/Roadhouse (maximum GLA 252m^2), Caretakers Dwelling (maximum GLA 108m^2), Service Premises/Motor Vehicle Repair Station (maximum GLA 216m^2), Public Utility, Public Recreation, Produce Store restricted to the sale of fresh produce grown primarily in the locality (maximum GLA 216m^2) and Shop as part of a Service Station (maximum GLA 100m^2), in accordance with the Scheme Provisions. Any Gross Leasable Floor Areas not utilised for a specific use shall not be transferable to any other use. Development Restrictions - Car Parking to be incidental to the predominant use to the satisfaction of Local government. Maximum Gross Leasable Floor Area of 1036m^2

SCHEDULE 8 - RESTRICTED USES (Cont'd)

Clause 4.7 applies.

		STREET LOCALITY	PARTICULARS OF LAND	ONLY USE PERMITTED
R19	19.	Coalfields Road, Roelands (Cont'd) *AMD 26 GG* 22/1/99	Portion of Lot 27	Notwithstanding the provisions of Clause 8.1 of the Scheme Text, no structures shall be erected within 20 metres of the Coalfields Road reserve without the specific approval of Local government, who shall if approving the proposal, request that dense screening vegetation be undertaken between the proposed structure and the Highway. Development is to be generally in accordance with the Development Concept Plan dated 24 September 1997. Access, egress and turning lanes are to be deigned to the satisfaction of Main Roads Western Australia. On site effluent disposal is to be provided to the satisfaction of Local government's Health Department and the Health Department Western Australia. More advanced Alternative Treatment Units may be required. All buildings shall be of a design and constructed of materials that will compliment and enhance the rural character of the locality to the satisfaction of Local government.
R20	20.	Mardo Avenue & Mulgarra Street, Australind *AMD 60 GG 17/2/06*	Lot 363	Aged or Dependent Persons' Dwellings in accordance with the provisions that relate to the R30 density code and the specific provisions for Aged or Dependant Persons Dwellings in the R-Codes.
R21	21.	Leisure Drive and Walingale Drive *AMD 68 GG4/8/09*	Lots 502, 503, 504, 534, 535, and 536	Medical Centre and ancillary uses. The development application for the proposed Medical Centre shall address the following issues: ▪ the upgrading of local roads; ▪ vehicle access and traffic management; ▪ provision of adequate on-site car parking; ▪ appropriate landscaping' ▪ hours of operation; ▪ building form; ▪ provision of adequate setback from roads and adjoining properties; ▪ signage; and ▪ appropriate boundary fencing. The Medical Centre and ancillary uses will not be permitted in the event that the land is subdivided or developed for residential purposes.

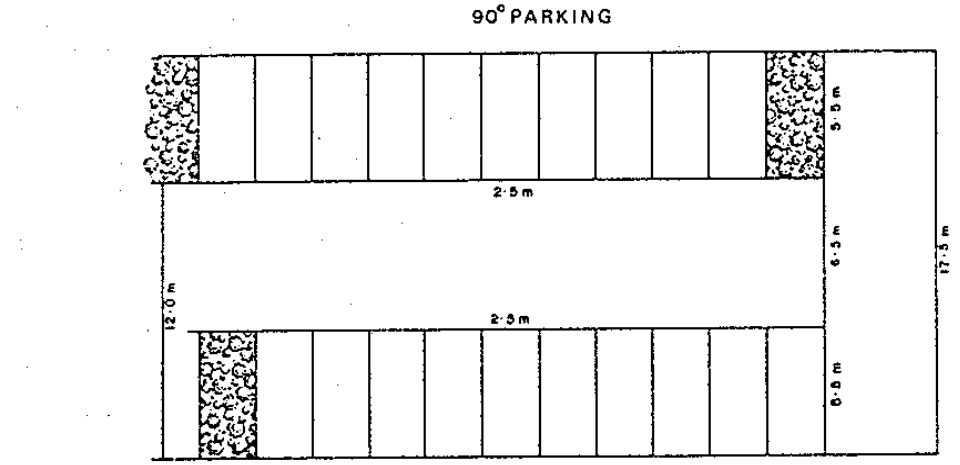
SCHEDULE 8 - RESTRICTED USES (Cont'd)

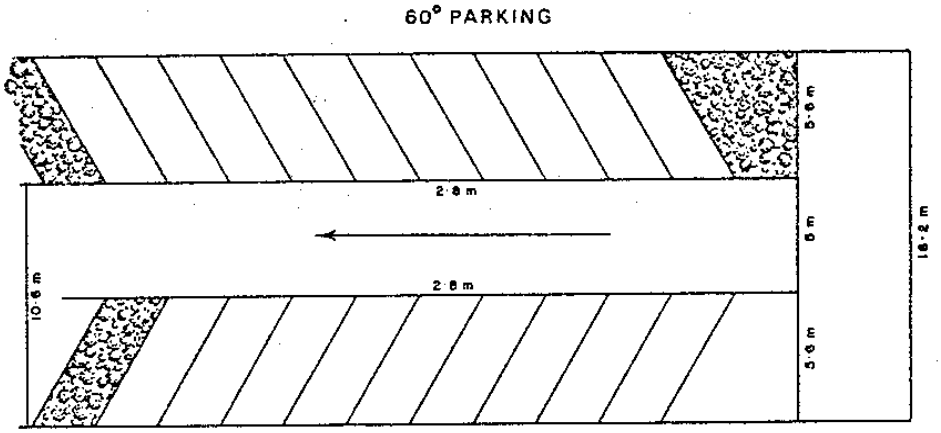
Clause 4.7 applies.

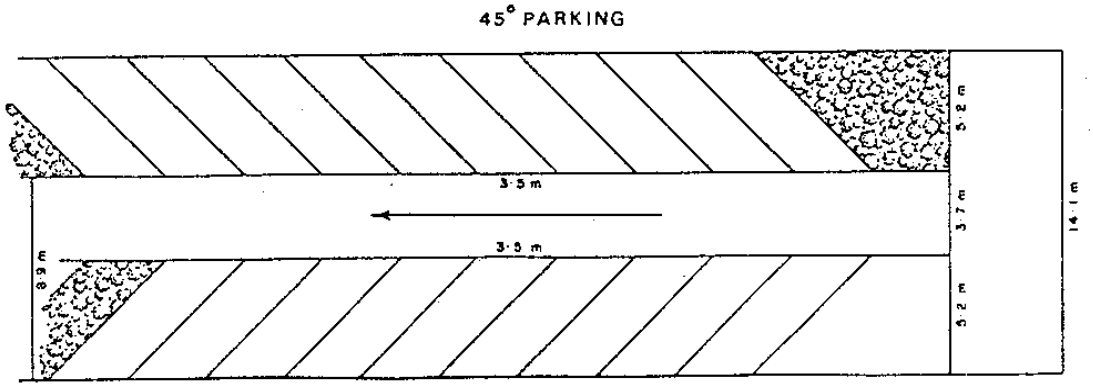
		STREET LOCALITY	PARTICULARS OF LAND	ONLY USE PERMITTED
R22	22.	Young Street & Rath Road, Harvey *AMD 92 GG 08/11/11.*	Portion of Lot 20 and portion of Lot 22	<u>Aged Persons Dwellings</u> 1. The subdivision / amalgamation of portion of Lot 20 and portion of Lot 22 and the development thereof shall generally be in accordance with a local structure plan, adopted by the Shire of Harvey and endorsed by the Western Australian Planning Commission.
	23.	Forrest Highway, Roelands *AMD 111 GG 11/12/15*	Part of Lot 568	Rural Pursuit, Viticulture/Horticulture, Commercial Stables, Forestry, Rural Industry, Extractive Industry, Wayside Stall, Public Utility, Stock Holding and Saleyards, Private Stables, Timber/Shelter Belts, Aquaculture and Public Recreation

SCHEDULE 9 - CARPARKING LAYOUTS

Landscaping in accordance with Clause 8.2 of the Scheme Text.

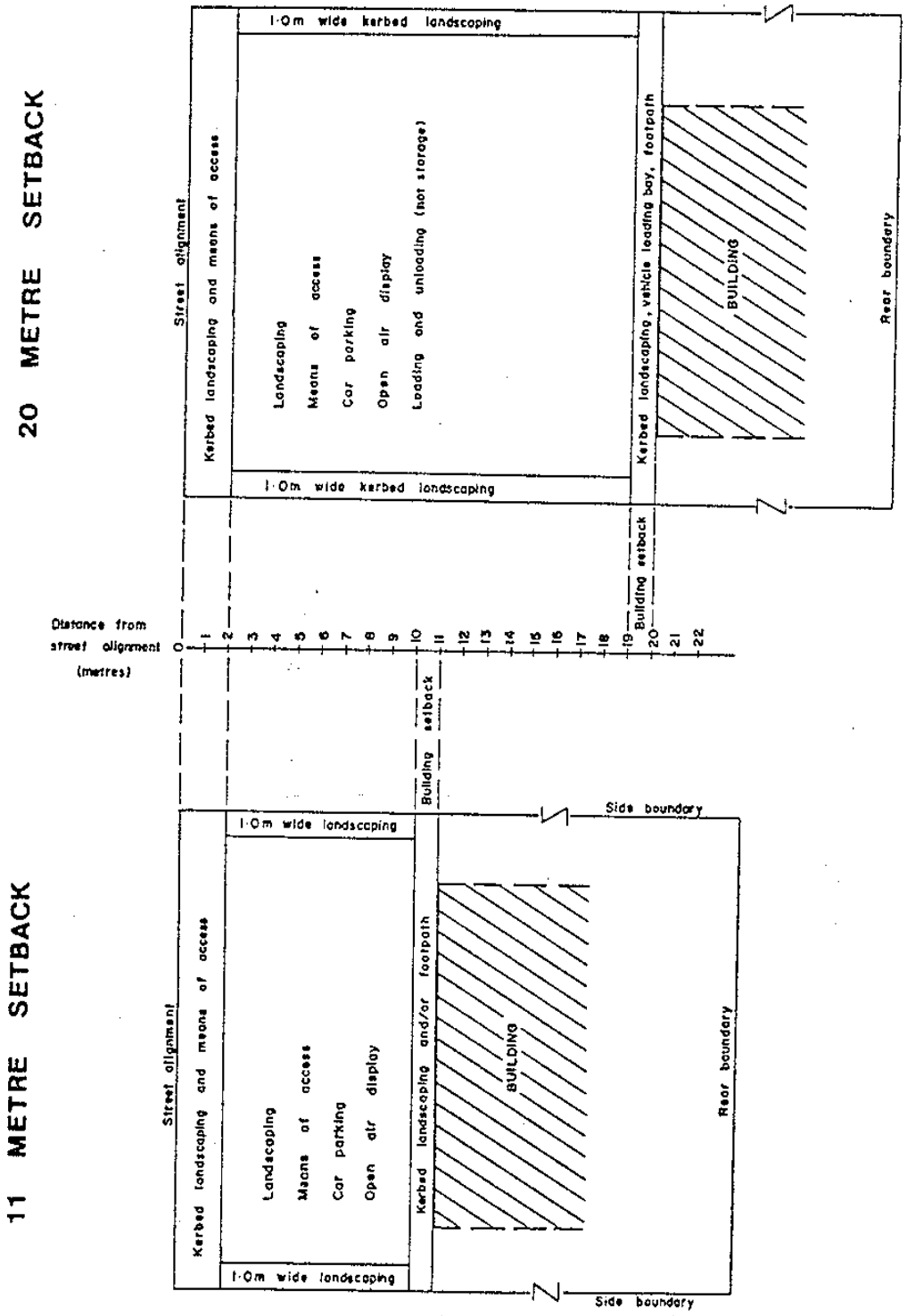






SCHEDULE 10 - SET BACK DIAGRAM

Clauses 5.1.2 and 6.1.2 apply.



SCHEDULE 11 - INTERPRETATIONS

AMD 116 GG 06/06/17

Abattoir: Means land and buildings used for the slaughter of animals for human consumption and the treatment of carcasses, offal and by-products.

Absolute Majority: Shall have the same meaning as is given to it in and for the purpose of the Local Government Act 1960 (as amended).

Activity Building: Means a public building, located on a recreation zone, which is used for the purposes of indoor recreation and social activities.

Aged Persons Dwelling Units: Means self-contained dwelling units provided by a religious or charitable organisation, Government Authority or other body approved by the Local government for the purpose of the accommodation of aged persons and which are designed and used solely for that purpose.

Aged Persons Home: Means a residential building or group of buildings provided by a religious or charitable organisation, Government Authority or other body approved by the Local government for the purpose of accommodation of aged persons and which are designed and used solely for that purpose.

Aged Persons Village: Means a building or group of buildings consisting of either:

(a) an aged persons' home; or
(b) an aged persons home and aged persons dwelling units;

and which includes buildings or parts of buildings used for communal facilities, food preparation, dining, recreation, laundry or medical care.

Amusement Parlour: Means land and buildings, open to the public, where the predominant use is amusement by amusement machines and where there are more than two amusement machines operating within the premises.

Ancillary Dwelling: has the same meaning as it does in the Residential Design Codes.

AMD 117 GG 27/06/17

Aquatic Centre: Means land and structures used for water based recreational activities but does not include rivers, lakes inlets, dams or foreshore areas.

Aquaculture: Aquaculture means any fish farming operation for which a fish farming licence issued pursuant to the provisions of Part 8 (Section 90-102) of the Fish Resource Management Bill 1994 and the Fisheries Regulations 1938 (as amended) is required.

Art and Craft Studio: Means a building, not being located on a zone where a shop is permitted, which is used for the purposes of display and sale of art, crafts, curios and other items orientated to the tourist trade.

Bank: Means a building wherein the predominant business is directed to serving the general public in money and financial matters and includes building societies and sub-agencies of such activities. It does not include buildings which are not generally accessible to the public wherein the primary activity is the administration of financial matters such as merchant banks, insurance offices, accountants and the like.

Battery Farming: Means the husbandry of all forms of livestock within buildings or lot feeding establishments such that the animals spend over 60% of the time within any 7 day period enclosed. It shall not include a piggery, poultry farm, dog kennels, cattery nor any premises such as veterinary hospitals where animals are confined for medical treatment.

Battle-axe lots: Means a lot having access to a public road by means of an access strip included in the Certificate of Title of that lot.

Bed & Breakfast Accommodation: means a dwelling, used by a resident of that dwelling, to provide accommodation for persons away from their normal place of residence on a short term commercial basis and includes the provision of breakfast. For the purpose of this Clause, the provision of accommodation means a maximum of two (2) guest bathrooms forming an integral part of the dwelling and capable of accommodating no more than 4 adults or one family at any one time. *AMD 47 GG 8/2/02*

Betting Agency: Means a building operated in accordance with the Totalisator Agency Board Betting Act 1960 (as amended).

Boarding House: Means a building in which provision is made for lodging or boarding more than four persons, exclusive of the family of the keeper, for hire or reward, but does not include:

(a) premises the subject of an Hotel, Limited Hotel or Tavern Licence granted under the provisions of the Liquor Act 1970 (as amended);
(b) premises used as a boarding school approved under the Education Act, 1928 (as amended);
(c) a single dwelling, attached, grouped or multiple dwelling unit; or
(d) any building that is the subject of a strata title issued under the provisions of the Strata Titles Act, 1985 (as amended).

Brewery: means breweries, cideries and distilleries licensed as a producer under the *Liquor Control Act 1988* and may be used to sell liquor produced on-site for consumption on the premises. *AMD 102 GG 8/10/13*

Builder's Yard: Means land and buildings used for the storage of building material, pipes, or other similar items related to any trade, and may include manufacture, assembly and dismantling processes incidental to the predominant use.

Building: Shall have the same meaning as is given to it in and for the purposes of the Residential Planning Codes.

Building Envelope: Means an area of land within a lot marked on a plan forming part of the Scheme outside which building development is not permitted.

Building Line: Means the line between which and any public place or public reserve a building may not be erected except by or under the authority of an Act.

Building Setback: Means the shortest horizontal distance between a boundary or other specified point and the position at which a building may be erected.

Camping Area: Means land used for the lodging of persons in tents or other temporary shelter.

Caravan Park: Means land and buildings used for the parking of caravans under the Bylaws of the Local government or the Caravan Parks and Camping Grounds Regulations 1974 (as amended) made pursuant to the provisions of the Health Act, 1977-1979 (as amended).

Caretaker's Dwelling: Means a dwelling on the same site as a builing, operation or plant used for industry, and occupied by a supervisor of that building, operation or plant. *AMD 117 GG 27/06/17*

Car-park: Means lands and buildings used primarily for parking private cars or taxis whether open to the public or not but does not include any part of a public road used for parking or for a taxi rank, or any land or buildings in which cars are displayed for sale.

Car Sales Premises: Means land or a building or buildings used for the display or sale of motor vehicles whether new or second-hand but does not include a workshop unless used for the repair of those motor vehicles.

Car-wash: Means premises used for the washing or cleaning of motor vehicles by mechanical means.

Cattery: Means the use of the approved outbuilding constructed in accordance with the Health Act Model Bylaws Series "A" Part One - General Sanitary Provisions (as amended) for the purpose of keeping more than three (3) cats over the age of three (3) months.

Chalet: A detached holiday accommodation unit including cooking facilities which may be fully self-contained, having a minimum floor area of 28m^2, and which is generally of single storey or split level construction.

Change Rooms: Means a building providing showers, toilets and changing facilities provided that such use is ancillary to active recreation activities.

Child Care: Premises (not including a residential dwelling), used in accordance with the Child Care Services Act 2007 to provide for the casual, part-time or day-to-day care of children-

(a) For payment or reward, whether directly or indirectly through payment or reward for some other service; or
(b) As a benefit of employment; or
(c) As an ancillary service to a commercial or recreational activity;

Civic Building: Means a building designed, used or intended to be used by a Government Department, an instrumentality of the Crown, or the Local government as offices or for the administrative or other like purpose.

Civic Use: Means land and buildings used by a Government Department, an instrumentality of the Crown, or the Local government, for administrative, recreational or other purpose.

Commission: Means the Western Australian Planning Commission constituted under the Western Australian Planning Commission Act, 1985 (as amended).

Club Premises: Means the land and buildings used or designed for use by a legally constituted club or association or other body of persons united by a common interest whether such building or premises be licenced under the provisions of the Liquor Act, 1970, (as amended) or not and which building or premises are not otherwise classified under the provisions of the Scheme.

Commercial Stables: Means premises or land or both where horses are kept bred and/or trained for commercial gain.

Commercial Vehicles: Means a vehicle used for commercial or industrial purposes.

Community Home: Means a building used primarily for living purposes by a group of physically or intellectually handicapped or socially disadvantaged persons living together with or without paid supervision or care and managed by a constituted community based organisation, a recognised voluntary charitable or religious organisation, a government department or instrumentality of the Crown.

Constructed Road: Means a track that has been graded and shaped. It also may or may not be covered with a foreign material and may or may not be sealed.

Consulting Rooms: Means a building (other than a hospital or medical centre) used by no more than two practitioners who are legally qualified medical practitioners or dentists, physiotherapists, chiropractors, and persons ordinarily associated with a practitioner, in the prevention or treatment of physical or mental injuries or ailments, and the two practitioners may be of the one profession or any combination of professions or practices.

Consulting Rooms Groups: Means a building (other than a hospital or medical centre) used by more than two practitioners or dentists, physiotherapists, chiropractors and persons ordinarily associated with a practitioner, in the prevention, investigation or treatment of physical or mental injuries or ailments, and the practitioners may be of the one profession or any combination of professions or practices.

Convenience Store: Means land and buildings used for the retail sale of convenience goods being those goods commonly sold in supermarkets, delicatessens and newsagents but including the sale of petrol and operated during hours which include but which may extend beyond normal trading hours and providing associated parking. The buildings associated with a convenience store shall not exceed 200m^2 gross leasable area. In a residential zone a convenience store shall be part of a dwelling which shall be occupied by the owner or lessee of the store.

Development: Shall have the same meaning given to it in and for the purposes of the Act and shall include the clearing, excavation, filling and drainage of land.

Display Home Centre: means a group of two or more dwellings which are intended to be open for public inspection. *AMD 47 GG 8/2/02*

District: Means the Municipal District of the Shire of Harvey.

Dog Kennels: Means land and buildings used for the boarding and breeding of dogs where such premises are registered or required to be registered by the Local government; and may include the sale of dogs where such use is incidental to the predominant use.

Drive-In Theatre: Means land and buildings used to make provision for an audience to view the entertainment while seated in motor vehicles.

Dry Cleaning Premises: Means land and buildings used for the cleaning of garments and other fabrics by chemical processes.

Dwelling: Means a building or portion of a build ring being used or intended, adapted or designed to be used for the purpose of human habitation on a permanent basis by -

(a) a single/person,
(b) a single family, or
(c) no more than six (6) persons who do not comprise a single family.

Eating House: Means premises in which food is prepared for sale and consumption within the premises, and shall include a licenced restaurant and eating house, from which food for consumption outside the building is sold and where the sale of food for consumption outside the building is not the principal part of the business.

Educational Establishment: Means a school, college, university, technical institute, academy or other educational centre, but does not include a reformatory or institutional home.

Effective Frontage: Means the width of a lot at the minimum distance from the street alignment at which buildings may be constructed, and shall be calculated as follows:

(a) where the site boundaries of a lot are parallel to one another, the length of a line drawn at right angles to such boundaries;
(b) where the side boundaries of a lot are not parallel to one another, to the street frontage and intersecting the side boundaries at the minimum distance from the street alignment at which buildings may be constructed; or
(c) Where a lot is of such irregular proportions or on such a steep grade that neither of the foregoing methods can reasonably be applied, such length as determined by the Local government.

Electricity Generation: Means land and buildings, structures and plant used for the generation of electrical power and includes such land, buildings, structures, ore bodies and water bodies that provide fuel to, or are ancillary to, the generation of electrical power.

Factory Unit Building: Means an industrial building designed, used or adopted for use as two or more separately occupied production or storage areas and has appurtenant to each building a separate storage yard and to which there is direct vehicular access for loading and unloading.

Family Day Care: Premises used in accordance with the Child Care Services Act 2007 to provide a child care service, at a place where -

(a) the person providing the service lives; and
(b) none of the children to whom the service is provided live.

Fast Food Outlet: Means land and buildings used for the preparation, sale and serving of food to customers in a form ready to be eaten without further preparation, primarily off the premises, but does not include a fish shop.

Feeding Lot: Means land, or an enclosure on land, with or without ancillary buildings, not exceeding 2 hectares in area, used for the intensive feeding of animals in enclosures using food imported to the site.

Fish Shop: Means a building where wet fish and similar foods are displayed and offered for sale.

Fixed Tourist Accommodation: Means any building, caravan or mobile home in a caravan-park located, or intended to be located, on the same site within the caravan park for a period exceeding 6 consecutive months.

Forestry: Means the cultivation, management and felling of trees for commercial purposes.

Frontage: Means a boundary line or lines between a site and the street or streets upon which the site abuts.

Fuel Depot: Means a depot for the storage or bulk sale of solid or liquid gaseous fuel, but does not include a service station and specifically excludes the sale by retail into the final users vehicle of such fuel from the premises.

Funeral Parlour: Means land and buildings used for the undertaker where bodies are stored and prepared for burial or cremation.

Garden Centres: Means land and buildings used for the sale and display of garden products, including garden ornaments, plants, seeds, domestic garden implements and motorised implements and the display but not manufacture of prefabricated garden buildings.

Gas Manufacture and Storage: Means land and buildings used for the commercial manufacture and storage of all gases whether flammable or inflammable, toxic or non toxic, but does not include compressed air or steam.

Gazettal Date: Means the date of which this Scheme is published in the Government Gazette.

Golf Course: Means land used for the playing of golf and includes ancillary buildings, club premises and commercial facilities located on that land.

Gross Floor Area (G.F.A.): Shall have the same meaning given to it and for the purposes of the Australian Standard Building Bylaws, 1988 (as amended).

Grouped Dwelling: As defined in the Residential Planning Codes.

Health Centre: Means land and buildings designed and equipped for physical exercise, recreation and sporting activities including outdoor recreation.

Health Farm: Means a health centre at which or in conjunction with which accommodation is provided for patrons or clients.

Home Occupation: Means a business or activity carried on with the written permission of the Local government within a dwelling or the curtilage or a dwelling by a person resident therein or within a domestic outbuilding by a person resident in the dwelling to which it is appurtenant that:-

(a) Does not cause injury to or prejudicially affect the amenity of the neighbourhood including (but without limiting the generality of the foregoing) injury, or prejudicial affection due to the emission of light, noise, vibration, electrical interference, smell, fumes, smoke, vapour, steam, soot, ash, dust, grit, oil, liquid wastes or waste products or the unsightly appearance of the dwelling house or domestic outbuilding on or the land on which the business is conducted;
(b) does not entail employment of any person not a member of the occupier's family;
(c) does not occupy an area greater than twenty square metres;
(d) does not require the provision of any essential service main or a greater capacity than normally required in the zone in which it is located.
(e) does not display a sign exceeding 0.2m^2 in area.

(f) in the opinion of the Local government is compatible with the principal uses to which land in that zone may be put, and will not in the opinion of the Local government generate a volume of traffic that would prejudice the amenity of the area.
(g) does not entail the presence, use or calling of a vehicle of more than two tonnes tare weight;
(h) does not entail the presence of more than one commercial vehicle and does not include provision for the fuelling or repairing of motor vehicles within the curtilage of the dwelling or domestic outbuilding.
(i) does not entail the offering for sale or display of motor vehicles machinery or goods (other than goods manufactured or services on the premises); and
(j) does not entail a source of power other than an electric motor of not more than 0.373 kilowatts (0.5hp).

Hospital: Means a building in which persons are received and lodged for medical treatment or care and includes a maternity hospital.

Hospital Special Purposes: Means a building used or designed for use wholly or principally for the purpose of a hospital or sanatorium

Hostel: Means a lodging house which is not open to the public generally but is reserved for use solely by students and staff of educational establishments, members of societies, institutes or associations.

Hotel: Means land and buildings providing accommodation for the public the subject of an Hotel Licence granted under the provisions of the Liquor Act, 1970 (as amended).

Industry: Means the carrying out of any process in the course of trade or business for gain, for and incidental to one or more of the following:-

(a) the winning, processing or treatment of minerals;
(b) the making, altering, repairing, or ornamentation, painting, finishing, cleaning, packing or canning or adapting for sale, or the breaking up or demolition of any article or part of an article;
(c) the generation of electricity or the production of gas;
(d) the manufacture of edible goods, and includes, when carried out on land upon which the process is carried out and in connection with that process, the storage of goods, any work of administration or accounting, or the wholesaling of goods resulting from the process, and the use of land for the amenity of persons engaged in the process;

but does not include

(a) the carrying out of agriculture;
(b) site work on buildings, work or land,
(c) in the case of edible goods the preparation of food for sale from the premises; or
(d) panel beating, spray painting or motor vehicle wrecking.

Industry cottage: Means an industry which produces arts and craft goods which cannot be carried out under the provisions relating to a "home occupation" and that:-

(a) does not cause injury to or prejudicially affect the amenity of the neighbourhood including (but without limiting the generality of the foregoing) injury, or prejudicial affection, due to the emission of light, noise, vibration, stream soot, ash, dust, grit, oil, liquid wastes or waste products.
(b) where operated in a Residential zone, does not entail the employment of any person not a member of the occupier's family normally resident on the land.
(c) is conducted in an outbuilding which is compatible to the zone and its amenity and does not occupy an area in excess of $55m^2$.
(d) does not require the provisions of any essential service main of a greater capacity than normally required in the zone in which it is located; and
(e) does not display a sign exceeding $0.2m^2$ in area.

Industry - Extractive: Means an industry which involves:-

(a) the extraction of sand, gravel, limestone, clay, turf, soil, rock, stone, minerals, or similar substance from the land, and also the storage, treatment or manufacture of products from those materials is extracted or on land adjacent thereto; or
(b) the production of salt by the evaporation of sea water.

Industry - General: Means an industry other than a cottage, extractive, hazardous, light, noxious, rural or service industry.

Industry— Hazardous: Means an industry which by reason of the processes involved or the method of manufacture of the nature of the material used or produced requires isolation from other buildings.

Industry - Light: Means an industry:-

(a) In which the processes carried on, the machinery used, and the goods and commodities carried to and from the premises will not cause any injury to, or will not adversely affect the amenity of the locality by reason of emission of light, noise, electrical interference, vibration, smell, fumes, smoke, vapour, steam, soot, ash, dust, waste water or other waste products; and
(b) the establishment of which will not, or the conduct of which does not, impose an undue load on any existing or projected service for the supply or provision of water, gas, electricity, sewerage facilities, or any other like services.

Industry - Noxious: Means an industry in which the processes involved constitute an offensive trade within the meaning of the Health Act, 1911 (as amended), but does not include a fish shop, dry cleaning premises, marine collectors yard, laundromat, piggery or poultry farm.

Industrial - Rural: Means an industry handling, treating, processing or packing primary products grown, reared or produced in the locality, and a workshop servicing plant or equipment used for rural purposes in the locality.

Industry - Service: Means a light industry carried out on land or in buildings which may have a retail shop front and from which goods manufactured on the premises may be sold; or land and buildings having a retail shop front and used as a depot for receiving goods to be serviced.

Infant Health Centre: Means land and buildings used for the health care of children.

Intensive Farming: Means the use of land for the purposes of trade, commercial reward or gain, including such buildings and earthworks normally associated with the following:-

(a) the production of grapes, vegetables, flowers, exotic and native plants, fruit and nuts;
(b) the establishment and operation of plant and fruit nurseries;
(c) the development of land for irrigated fodder production and irrigated pasture (including turf farms);
(d) the development of land for the keeping, rearing or fattening of pigs, poultry (for either egg or meat production), rabbits (for either meat, or fur production) and other livestock in feedlots;
(e) dairy milking sheds;
(f) the development of land for the keeping, rearing or fattening of other livestock above those stocking rates recommended by the Department of Agriculture in consultation with surrounding farmers for the applicable pasture type;
(g) Aquaculture. Aquaculture means any fish farming operation for which a fish farm licence issued pursuant to the provisions of Part V of the Fisheries Regulations, 1938 (as amended) is required.

Kindergarten: Means land and buildings used as a school for developing the intelligence of young children by object lessons, toys, games, singing and similar methods.

Land: Shall have the same meaning given to it in and for the purposes of the Act.

Laundromat: Means a building, open to the public in which coin-operated or other washing machine, with or without provision for drying clothes, are available for use.

Laundry: Means a factory, generally not accessible to members of the general public used for the commercial cleaning of cloth items.

Library: Means a non-commercial establishment used for the lending, reading or storing of printed material or art and shall include an archive.

Liquor Store: Means a building the subject of a Store Licence granted under the provisions of the Liquor Act, 1970 (as amended).

Livestock Saleyards: Means land and structures of a Store Licence granted under the provisions of the Liquor act, 1970 (as amended).

Lodging House: Shall have the same meaning as is given to it in and for the purposes of the Health Act, 1911-1979 (as amended).

Lot: Shall have the same meaning given to it in and for the purposes of, the Act and "allotment" has the same meaning.

Lunch Bar: Means land and buildings located in a commercial or industrial zone used for the preparation, sale and serving or food predominantly to employees in surrounding workplaces and which operates during the normal working hours of surrounding businesses.

Marine Sales Premises: Means land or a building or buildings used for the display or sale of new or second hand marine boats.

Market: Means land and buildings used for a fair, a farmer's or producers' market, or a swapmeet in which the business or selling carried on or the entertainment provided is by independent operators or stall holders carrying on their business or activities independently or the market operator save for the payment where appropriate of a fee or rental.

Medical Centre: Means a building (other than a hospital) that contains or is designed to contain facilities not only for the practitioner or practitioners mentioned under the interpretations of consulting rooms but also for ancillary services such as chemists, pathologists and radiologists.

Milk Depot: Means land and buildings to which milk is delivered for distribution to consumers but in which milk is not processed or pasteurised.

Mobile Home: Means any vehicle or similar relocatable structure having been manufactured with wheels (whether or not such wheels have been removed) and having no footings other than wheels, jacks or skirtings, and so designed or constructed as to permit independent occupancy for continuous dwelling purposes incorporating its own facilities including bathroom and toilet facilities.

Mobile Home Park: Means land upon which two or more mobile homes, occupied for dwelling purposes, are located regardless of whether or not a charge is made for such accommodation.

Motel: Means land and buildings used or intended to be used to accommodate patrons in a manner similar to a Hotel or Boarding House but in which special provision is made for the accommodation of patrons with motor vehicles.

Motor Vehicle Hire Station: Means land and buildings used for the hiring out of motor vehicles and when conducted on the same site, the storage and cleaning of motor vehicles for hie but does not include mechanical repair or servicing of such vehicles.

Motor Vehicle Repair Station: Means land and buildings used for the mechanical repair and overhaul of motor vehicles including tyre recapping, retreading, panel beating, spray painting and chassis reshaping.

Motor Vehicle Wash Station: Means land and buildings where vehicles are washed and cleaned by or primarily by mechanical means.

Multiple Dwelling: As defined in the Residential Planning Codes

Municipal and Government Offices: Means buildings owned by a Local, State or Federal Government instrumentality, used for the administration of government business. It does not include private buildings rented by Government instrumentalities.

Museum: Means land and buildings used for storage and exhibiting objects illustrative of antiquities, natural history, art, nature and curiosities.

Natural Countryside with Managed Areas: Means rural land, privately or publicly owned, to which the public has access, with or without a fee, where the manner of access and use of the land by the public is controlled in accordance with a management plan approved by the Local government or the Department of Conservation and Land Management.

Non-conforming Use: Means a use of land which, though lawful immediately prior to the coming into operation of this Scheme, is not in conformity with the Scheme.

Night Club: Means a building or part of a building where entertainment and refreshments are provided to patrons.

Nursery: Means a land and buildings used for the propagation, rearing and sale of products associated with horticultural and garden decor.

Nursing Home: Means premises in which persons receive medical and domestic care during a long illness or infirmity or in which persons reside during convalescence from an illness.

Office: Means a building used for the conduct of administration, (including government and Municipal administration), the practice of a profession, the carrying on of agencies, banks, typist and secretarial services, and services of a similar nature.

Petrol Filling Station: Means land and buildings used for the supply of petroleum products and motor vehicle accessories.

Piggery: Shall have the same meaning given to it in and for the purposes of the Health Act, 1911-1979 (as amended).

Place of Amusement: Means premises open to the public in which are provided for the use or amusement of customers two or more of any of the following items:-

(a) a billiard table;
(b) a pool table;
(c) a bagatelle table;
(d) a machine or device at which games or competitions may be played;
(e) a juke box; or
(f) an amusement machine.

Plot Ratio: Shall have the same meaning given to it in the Australian Standard Building Bylaws except for residential dwellings where it shall have the same meaning given to it in the Residential Planning Codes.

Potable Water: Means water in which level of physical, chemical and bacteriological constituents do not exceed the maximum permissible levels set out in 'International Standards for Drinking Water - Third Edition, World Health Organisation - 1971'.

Poultry Farm: Means land and buildings used for hatching, rearing or keeping of poultry for either egg or meat production which does not constitute an offensive trade within the meaning of the Health Act, 1911-1979 (as amended).

Precinct: Means a definable area where particular planning policies, guidelines or standards apply.

Prison: Shall have the same meaning given to it in and for the purposes of the Prisons Act, 1981 (as amended).

Private Hotel: Means land and buildings used for the residential purposes the subject of a Limited Hotel Licence granted under the Provisions of the Liquor Act 1970 (as amended).

Private Recreation: Means land used for parks, gardens, playgrounds, sports arenas, or other grounds for recreation which are not normally open to the public without charge.

Private Stables: Means buildings or land or both where horses are kept, bred and or trained for private or hobby purposes and not for commercial reward or gain.

Produce Market: The land use definition of a "Produce Market" means premises used for the storage, processing and sale (by whole sale and/or retail) of domestic fresh produce including the predominant lines of fruit, fresh and processed vegetables, and which may include the incidental sale of other items such as flowers, bread, meat, smallgoods, dairy products, bulk food goods, continental foods and fish. *AMD 90 GG 18/6/13*

Produce Store: Means land and buildings wherein fertilisers and grain are displayed and offered for sale.

Professional Office: Means a building used for the purposes of his profession by an accountant, architect, artist, author, barrister, chiropodist, consular official, dentist, doctor, engineer, masseur, nurse, physiotherapist, quantity surveyor, solicitor, surveyor, teacher (other than a dancing teacher or a music teacher), town planner, or valuer, or a person having an occupation of a similar nature, and Professional Person has a corresponding interpretation.

Public Amusement: Means land and buildings used for the amusement or entertainment of the public, with or without charge.

Public Authority: Shall have the same meaning given to it in and for the purpose of the Act.

Public Mall: Means any public street or right-of-way designed especially for pedestrians who shall have right of way and vehicle access shall be restricted to service vehicles at time specified by the Local government.

Public Recreation: Means land used for a public park, public gardens, foreshore reserve, playground or other grounds for recreation which are normally open to the public without charge.

Public Transport Depot: Means a "transport depot" (as defined) for road transport vehicles owned by any Government or Local Government instrumentality.

Public Utility: Means any - work or undertaking constructed or maintained by a public authority or the Local government as may be required to provide water, sewerage, electricity, gas, drainage, communications or other similar services.

Public Worship Place of: Means land and buildings used for the religious activities of a church but does not include an institution for primary, secondary, or higher education, or a residential training institution.

Race Track: Means any track and ancillary buildings used for the commercial racing of horses or dogs.

Radio and TV Installation: Means land and buildings used for the transmission, relay and reception of signals and pictures, both commercial and domestic, but does not include domestic radio and television receivers.

Railway: Means land and buildings on that land which is owned by Westrail and are directly associated with Westrail railway operations throughout the Shire.

Reception Centre: Means land and buildings used by parties for functions on formal or ceremonious occasions, but not for unhosted use for general entertainment purposes.

Reformatory: Means land and buildings used for the confinement or detention in custody of juvenile offenders against the law with a view to their reformation.

Relocated Dwelling: Means a residential dwelling which has been previously constructed on a building site whether within the District or elsewhere and whether occupied or not.

Residential Building: Means a building or portion of a building, together with rooms and outbuildings separate from such building but ancillary thereto; such building being used or intended, adapted or designed to be used for the purpose of human habitation:**-**

(a) temporarily by two or more persons; or
(b) permanently by seven or more persons,

who do not comprise a single family; but does not include a hospital or sanatorium, a prison, an hotel, motel, or a residential school.

Restaurant: Means a building wherein food is prepared for sale and consumption within the building and the expression shall include a licensed restaurant, and a restaurant at which food for consumption outside the building is sold where the sale of food for consumption outside the building is not the principle part of the business.

Restoration: Means any work or process on at or in respect of a building structure or place which wholly or partly brings back the building structure or place to its original condition or which reinstates its historic or natural character either by rebuilding or repairing its fabric or by removing accretions or additions.

Road House: Means an "eating house" (as defined),which is orientated to serving the travelling public.

Rural Pursuit: Means the use of land for any of the purposes set out hereunder and shall include such buildings normally associated therewith:-

(a) the growing of vegetables, fruit, cereals or food crops;
(b) the rearing or agistment of goats, sheep, cattle, beasts of burden, emus, ostriches or deer;
(c) the stabling, agistment or training of horses;
(d) the growing of trees, plants, shrubs, or flowers for replanting in domestic commercial or industrial gardens; and
(e) the sale of produce grown solely on the lot but does not include the following except as approved by the Local government:-
    i) the keeping of pigs;
    ii) poultry farming;
    iii) the processing, treatment or packing of produce; and
    iv) the breeding, rearing or boarding of domestic pets.

Salvage Yard: Means the land and buildings used for the storage and sale of materials salvaged from the erection, demolition, dismantling or renovating of, or fire or flood damage to structures including (but without limiting the generality of the foregoing) buildings, machinery, vehicles and boats.

Sawmill: Means land and buildings, including mobile sawmills, where logs or large pieces of timber are sawn but does not include a joinery works unless logs or large pieces of timber are shown therein.

Schedule: Means a schedule to the Scheme.

Service Premises: Means a shop in which services are provided to the public and includes a hairdresser's salon, a dry cleaning agency, an art, craft or photographer's studio used for exhibition or instruction, and a travel agency, a ticket agency.

Service Station: Means land and buildings used for the supply of petroleum products and motor vehicle accessories and for carrying out greasing, tyre repairs and minor mechanical repairs and may include a cafeteria, restaurant or shop incidental to the primary use; but does not include transport depot, panel beating, spray painting, major repairs or wrecking.

Sewerage Treatment Works: Means land, buildings and mechanical plant, owned and operated by a Government or Local Authority instrumentality, used for the purposes of treating and disposing or sewerage effluent.

Shared Dwelling: Means a building used primarily for living purposes by not more than five persons residing therein as a single household; the term also includes such outbuildings and recreational uses and gardens as are ordinarily used therewith, but does not include a private hotel, motel or boarding house.

Shop: Means a building wherein goods are kept, exposed or offered for sale by retail, but does not include a bank, fuel depot, market, service station, milk depot, marine collector's yard, timber yard or land and buildings used for sale of vehicles or for any purpose falling within the definition of industry.

Showroom: Premises used to display, sell by wholesale or retail or hire, automotive parts and accessories, camping equipment, electrical light fittings, equestrian supplies, floor coverings, furnishings, furniture, household appliances, party supplies, swimming pools or goods of a bulky nature. *AMD 90 GG 18/6/13*

Stadium: Means a building or structure used for seating spectators at sporting functions and may include change rooms, club premises and other commercial or non-commercial facilities incidental to needs of the patrons of the stadium.

Short Stay Accommodation: Means a holiday accommodation unit which may be fully self-contained, and is to be occupied by the same tenant for a period of no more than two (2) months at a time. A maximum of four (4) short stay accommodation units shall be permitted within residential and rural zoned areas, in accordance with Scheme provisions. *AMD 15 GG 8/8/97*

Stockholding: Shall mean a "feeding lot" (as defined, with the exception that the area may exceed 2 hectares), used for the temporary accommodation of stock prior to transportation. The period of holding for any batch of stock shall not exceed one calendar month.

Street Alignment: Means the boundary between the land comprising a street and the land that abuts thereon, but where a new street alignment is prescribed under Section 364 of the Local Government Act 1960, it means the new street alignment so prescribed.

Swimming Pool: Means any inland body of water, enclosed or otherwise, which has been demarcated and designed by the Local government as a public swimming area.

Tavern: Means land and building the subject of a Tavern Licence granted under the provisions of the Liquor Act, 1970 (as amended).

Tertiary/Technical School: Means an educational establishment used for the purposes of tertiary or technical education.

Timber/Shelter Belt: Means a timber production sideline on farming properties which does not cover an area more than 20% of the total lot area.

Trade Display: Means land and buildings used for the display of trade goods and equipment for the purposes of advertisement.

Transport Depot: Means land and buildings used for the garaging of motor vehicles used or intended to be used for carrying goods or persons for hire or reward or for any consideration, or for the transfer of goods or persons from one such motor vehicle to another of such motor vehicle and includes maintenance, management and repair of the vehicles used, but not of other vehicles.

Trotting Track: Means any circular or oval track used for the training or racing of trotting horses.

Waste Disposal: Means the use of land for the storage and disposal of solid waste and includes a garbage depot, rubbish tip or landfill.

Veterinary Clinic: Means a building in which a veterinary surgeon or veterinarian treats the minor ailments of domestic animals and household pets as patients but in which animals or pets do not remain overnight.

Veterinary Hospital: Means a building used in connection with the treatment of sick animals and includes the accommodation of sick animals.

Viticulture/Horticulture: Means the intensive cultivation and production of grapes, flowers or vegetables for commercial purposes on any area exceeding 1,000m^2.

Warehouse: Means a building wherein goods are stored and may be offered for sale by wholesale.

Water Supply, Sewerage and Drainage Headworks: Means any land, works, buildings, structures, piping, machine or plant required to provide the main trunk essential services to urban area.

Wayside Stall: Means a building situated on private land which offers for sale to the general public produce or any commodity which is produced on the land upon which the buildings are located.

Wholesale: Means the sale of any goods to any person or persons other than the ultimate consumer of those goods by a person or his trustee, registered as a "wholesale merchant" for Sales Tax purposes under the provisions of the Sales Tax Assessment Act No. 1 1930 (as amended)

Wine House: Means land and buildings the subject of a Wine House Licence granted under the provisions of the Liquor Act, 1970 (as amended).

Wrecking Yard: Means land and buildings used for the storage, breaking up or dismantling of motor vehicles and includes the sale of second-hand motor vehicle accessories and spare parts.

Zoo: Means land and buildings used for the keeping, breeding or display of fauna but does not include kennels or keeping, breeding or showing of domestic pets.

SCHEDULE 12 - PRECINCT BOUNDARY STATEMENTS

PRECINCT AREA 1 - LESCHENAULT

Boundaries

The area is bounded on the west by the coast and the southern point of the Leschenault Peninsula then follows the Shire Boundary across the inlet to the Collie River bridge, northwards along the western boundary of Old Coast Road to the same side of Cathedral Avenue, east along the northern boundary of Cemetery Road to the east side of Reserve 36031, then northwards along the eastern boundary of this reserve to the western edge of the park strip which has been defined on the Scheme Maps for land zoned Special Residential, to Old Coast Road, then northwards along the western boundary of Old Coast Road to Treasure Road, then westwards along the line of the northern boundary of Lots 14 and 7 Buffalo Road to the coast. The area is approximately 4,650 hectares.

Precinct Policy Area Statements

The general policy for this area is conservation and recreation to the extent that latter activity is sustainable while permitting limited residential development without further degradation to the Inlet and environs. To this end it is the Policy that:

(h) A minimum lot size of two hectares for lots south of Crimp Crescent and five hectares for lots north of Crimp Crescent.

(i) Recreational uses of the Inlet and its perimeter be controlled to confine activity to specific areas on the perimeter of the inlet which can sustain such activity and be properly managed.

(j) The natural wilderness environment as perceived from the northern parts of the inlet and from Cathedral Avenue scenic drive be maintained by screening urban and semi urban development north of Australind behind a vegetation barrier on the scarp and maintaining rural land between these and the foreshore areas. West of Cathedral Avenue, between Australind Road and Buffalo Road the land use should be confined to conservation, controlled recreation and low intensity rural uses in the northern part.

(k) Low intensity tourist development on parts of the better drained soils of Lot 7 Buffalo Road, east of the line of primary foreshore dunes, would be appropriate subject to stringent environmental assessments and ongoing management. Clearing of this area should be discouraged. The eastern side of Lot 14 should be incorporated in the Leschenault Wetland protection area.

(l) The development of Lots 21 and 24 Cathedral Avenue, Leschenault, should reflect the transitional nature of the land towards large lot sizes, in order to enhance the landscape and environmental qualities of this area. A structure plan is required to be prepared for Lots 21 and 24-Cathedral Avenue, Leschenault, prior to the subdivision of the land. The structure plan should reflect the zoning of the land as Special Residential, Special Use Special Rural and Landscape Protection and Recreation, and show a transition of lot sizes, increasing in size from the southern boundary and being justified in terms of landform, vegetation and landscape impact. Within the "Special Residential" zone the minimum lot size shall be 4000m2 with an average of 6000m2.

(m) Provision could be made for a scenic road constructed through Lot 14 linking Buffalo Road to Binningup.

(n) The western portion of Lot 4 Buffalo Road be incorporated into the Leschenault Wetland protection area. Replanting of trees should be encouraged over the remainder of the land to Old Coast Road. Further subdivision should be limited to that compatible with conservation or agricultural purposes.

(o) South of Buffalo Road, the land between the Inlet and Old Coast Road be considered a conservation area to the Inlet and buffer area to the Goodchild's abattoir which is located just east of Old Coast Road.

(p) Where there are existing houses and commercial premises west of Old Coast Road, between Dawe Street and Paris Road, along the foreshore of the Inlet, redevelopment to "low key" tourist developments should be considered subject to satisfactory design and environmental safeguards.

Any development proposal is subject to a catchment management plan incorporating nutrient run-off and drainage management programme.

In addition to the general Policy Statements for this particular area, the following requirements apply to the Cathedral Avenue area, which is bounded by Buffalo Road to the north, the road on the peninsula to the west, Elinor Bell Road to the south and the public open space ridge as identified on the Scheme Map to the east.

(q) The zoning of the land shall be "Special Use Special Rural and Landscape Protection", which implies special conditions. It will furthermore ensure that the scenic rural character and lifestyle valued by the people are retained. (Specific development criteria for this particular section of Precinct Area 1 are outlined in Schedule 4 - Additional Requirements for Special Rural Zones - Area 4 - Cathedral Avenue - Leschenault). Furthermore, the zoning applied will ensure protection of the estuary and its associated flora and fauna.

PRECINCT AREA 2 - AUSTRALIND EXTENSIONS AND EAST AUSTRALIND URBAN

Boundaries

Starting from the Collie River bridge the boundary follows the Shire Boundary eastwards to the Australind Bypass Road bridge, then northwards along the Australind Bypass Road to the west and southwards along the same scarp park strip boundary as described for Precinct Area 1 to the Collie River bridge. The area is approximately 2,520 hectares.

Precinct Policy Area Statements

These areas form part of the Bunbury Wellington Study and are directly covered by the detailed provisions of the District Planning Scheme. The general Policy for the remaining rural area is that no further subdivision should be permitted that is not in keeping with the urban and semi urban intentions for the area.

All subdivision in this Precinct Area must be in the context of an approved local development plan, and is subject to a catchment management plan, incorporating nutrient run-off and drainage management.

In addition to the general Policy Statement, the following applies to the area known as East Australind which falls within Precinct Area 2. The area is contained within the following boundaries - Brunswick River to the north, Australind Bypass to the east, Collie River to the south and Brunswick River to the west.

The primary objective of the East Australind area is to accommodate the urban land requirements resulting from the growth of the Australind area, and the region generally. Accordingly, the proposed land uses in the Precinct Area are urban uses including residential, district shopping, local shopping, recreation and light industry, in accordance with the endorsed structure plan (which is subject to review), and has regard to logical road hierarchy and drainage catchments.

More specific objectives for the area are as follows:

(i) To provide for the staged release of residential land, comprising a range of residential densities. This entails the provision of a high standard of affordable housing, a mix of housing types to meet the community's changing needs, and the establishment of a high level of local amenity.

(ii) To ensure that the community's recreation needs are provided for. This includes the provision of community facilities, such as indoor recreation and meeting centres, as well as active, and landscaped passive recreation areas. This extensive river environment bordering the site offers significant opportunities in this regard.

(iii) The provisions of commercial and shopping opportunities in accessible and compatible situations. This includes the provision of a district shopping centre, local shopping areas, and attention to the creation of employment opportunities in close proximity to where people live.

(iv) The provision of a light industrial precinct in a land use compatible situation. This will involve encouragement of service sector employment and industry types, which minimises the potential for land use conflicts.

(v) The provision of inter-regional and sub-regional access via established major transport links. This will avoid significant environment and economic costs involved in the construction of an additional bridge over the Collie River. The establishment of a high standard public transport service will ensure ease of access to the district shopping centre, schools, recreation and jobs, from within the Precinct Area, and from nearby urban nodes such as Eaton and Australind.

(vi) The provision of an interim 400 metre buffer around the Australind Waste Water Treatment Plant located on Reserve 35061 Ditchingham Place. This recognises that the Plan is a non ultimate facility with a useful asset life projected to be a minimum of 10 years. The endorsed Structure Plan will provide for the staging of development in this area accordingly.

PRECINCT AREA 3 - TREENDALE

Boundaries

Starting from the Australind Bypass bridge to the south the boundary follows the Shire Boundary generally eastwards along the Collie River to the South Western Highway, then northwards to Raymond Road, then westwards along Raymond Road and Treendale Roads to the western boundary of Lot 878 as it crosses Treendale Road, northwards to Waterloo Road, west along Waterloo Road to the western boundary of Lot 24, northwards along the western boundary of Lots 24, 25 and 3, then east then north along the boundaries of Lot 1 to Clifton Road, east along Clifton Road to the first power lines, northwards along the power lines to the Brunswick River, westwards along the Brunswick River to the Australind Bypass and southwards to the Shire Boundary. The area is approximately 1,300 hectares and contains two sub areas (Area 3A and 3B).

Precinct Policy Area Statements

This Precinct Area is situated between future urban on the west, the "Intensive Farming" zone on the east and Kemerton on the north. It is a flat poorly drained Serpentine River soils and Bassendean Sands area and is generally unsuitable for agriculture landuses due to inappropriate soil types and proximity to the Collie River system. The area contains two sub areas (Area 3A and 3B), based on different land capabilities and constraints associated with each.

(r) The area bounded by the Australind Bypass to the west, Wellington Road to the north, Balaclava Road to the east and Raymond Road to the south (Precinct Area 3A) consists of flat, poorly drained Bassendean sands, with little agricultural potential. It is poor quality residential land, but due to the location will be in demand for Special Rural and possible future residential development in the long term.

(s) The area bounded by the Australind Bypass to the west, Raymond Road to the north, South Western Highway to the east and Collie River to the south (Precinct Area 3B) consists largely of seasonally inundated river flats and poorly drained Pinjarra soils over moderately deep clays. This area has limited production potential due to problems associated with its proximity to the Collie River.

(t) Precinct Area 3B shall be subject to a catchment management programme as nutrient run-off would need to be minimised or controlled, and horticultural usage would not be encouraged for this part of the Precinct Area.

(u) Any proposals for rural-residential development shall be so designed as to-have regard for and not prejudice the future potential of those areas identified in the Bunbury - Wellington Region Plan as being suitable for future residential development.

(v) The area of land between Raymond Road and Treendale Road is not considered to be suitable for special rural subdivision, due to significant unresolved agricultural and nutrient export issues associated with this portion of land.

(w) The subdivision of land within Precinct Area 3 should reflect the intentions of the Bunbury Wellington Region Plan, where the area has been identified as having potential for future residential development.

(x) All rezonings for "Special Rural" zones shall comply with Clause 6.3 of the Scheme.

(y) All subdivision for rural residential should be subject to the general provisions for the "Special Rural" zone provisions of the District Planning Scheme.

(z) All subdivisions for rural residential development should be subject to a structure plan. Part of the structure plan shall be a programme for the revegetation of the cleared parts of the Precinct Area.

(aa) Precinct Area 3 is an exposed location and is traversed by the declared scenic routes nominated in the District Planning Scheme. Intensively planted buffers to a minimum width of 20 metres or such greater width necessary to obtain adequate screening should be maintained along the declared scenic routes and as a buffer to the Australind By-pass.

(bb) The Precinct Area is largely cleared, and shall be subject to a strict revegetation programme requiring landowners to plant a minimum density of trees (specified by Local government) capable of growing to at least 3 metres in height, within tree planting areas identified on the subdivision plan, prior to subdivision. The developer should be required to maintain these vegetated areas, and to replace any diseased or dead plants for a period of two years.

(cc) A minimum of 50 metre subdivision setback for open space should be required from the banks of the Brunswick and Collie Rivers. Generally, development should be kept to the higher terrace of the flood plain of the Collie River and is subject to such development controls as the Local government may deem necessary based on Water Authority of Western Australia recommendations.

(dd) No stock shall be permitted unless the Department of Agriculture has formally advised that it is satisfied that the soil conditions and type of vegetation existing on a lot is capable of supporting such a use.

PRECINCT AREA 4 - BRUNSWICK INTENSIVE FARMING AREA

Boundaries

On the south the boundary follows the boundary of Precinct Area 3 along Raymond and Treendale Roads. The other boundaries follow the line of the intensive farming zone on the District Scheme Map as far north as Mitchell Road, Benger. The area measures approximately 7,630 hectares.

Precinct Policy Area Statements

The area is very flat Guildford Formation soils virtually completely cleared for irrigated pasture. The areas of sparse remnant trees are generally located on poorer quality land that cannot be easily or productively irrigated.

(ee) With the exception of areas adjacent to Brunswick and Roelands townsites, no subdivision or rezoning for non-productive rural residential or hobby farms should be permitted.

(ff) All rezonings for Special Rural Zones shall comply with Clause 5.3 of the Scheme.

(gg) The Brunswick River valley has considerable recreational and open space value. All subdivision and development should be set back at least 50 metres from the banks. Revegetation and protection of the river bed and banks from stock should be encouraged.

PRECINCT AREA 5 - BENGER SWAMP PRECINCT

Boundaries

The western boundary follows Campbell Road northwards to Mitchell Road then east to meet the western boundary of the intensive agricultural zone, then south along this boundary to Campbell Road. The area is approximately 1,730 hectares.

Precinct Policy Area Statements

The Precinct Area encompasses the landscape unit of the Benger Swamp. The swamp is a recognised waterbird habitat subject to Conservation and Land Management, Management Plan No. 7, as a nature reserve. The swamp is seasonal and can be used for agriculture during the summer to the extent that the use accords with the Conservation and Land Management, Management Plan No. 7.

(hh) The area would be appropriate for low intensity non commercial tourist and/or educational development as the swamp could become an important seasonal tourist attraction.

(ii) No subdivision or ancillary commercial uses should be permitted in the area.

PRECINCT AREA 6 - Deleted by Amendment No. 114. Refer to Kemerton Strategic Industrial Area Structure Plan. *AMD 114 GG 04/04/17*

PRECINCT AREA 7 - BINNINGUP RURAL

Boundaries

Starting at the intersection of Old Coast Road and Treasure Road the boundary follows the alignment due west to the coast, then north along the coast to the southern boundary of Lot 36 Myalup to follow the southern side of Lake Preston foreshore, then southeast along the alignment of Road No. 968 to Myalup Beach Road, then east along Myalup Beach Road to the most westerly point of the State Forest, south then east along the State Forest boundary to Runnymede Road, south along Runnymede Road to Wellesley Road, then due west and south along the boundary of Precinct Area 6, to the starting point at the intersection of Treasure Road. The area measures approximately 3,400 hectares.

Precinct Policy Area Statements

This area provides the only window to the coast from the inland areas of the Shire and as such is a valuable resource. Over time there will be pressure for development and subdivision which should be towards the highest and best use namely tourism and such uses that will preserve public access.

(jj) Local government controls beach access which should be restricted to more stable areas and be subject to management and policing in consultation with the Department of Conservation and Land Management.

(kk) Although the western part of this Precinct Area between Myalup and Binningup may be regarded as high quality land for special rural zones, especially those parts that have significant stands of remnant vegetation closer to the coast, no change of zoning or subdivision for rural residential purposes should be permitted. This coastal strip of land is on the Quindalup soil association and has only marginal suitability for agriculture. It should be held in reserve as rural land pending the growth in demand for tourist and similar developments.

(ll) All proposals for development of this coastal strip should be subject to detailed environmental impact assessments and management plans.

(mm) No subdivision or development should be permitted on the fragile fore dunes.

(nn) Ground water resources in this area are generally fully committed and there is no potential for further horticultural special rural zones for the foreseeable future. Close to the coast the ground water is too saline for domestic purposes.

(oo) The remainder of the Precinct Area further east should be retained as a landscape protection area. No further subdivision not related to a rationalisation of broadacre agricultural holdings should be permitted.

(pp) The revegetation and reinstatement of the Myalup swamp should be encouraged.

(qq) Development of Lot 698 Lake Preston Road, Myalup, shall only be permitted on the existing 40 purple title lots. Development shall be restricted to one dwelling per lot, and subject to an application For Development Approval being approved by Local government.

(rr) Apart from the areas of expansion of Binningup contemplated in Planning Scheme No. 12, there should be no further urban expansion in the Precinct Area.

PRECINCT AREA 8 - RUNNYMEDE

Boundaries

Starting at the north west corner of Lot 11 Boonilup Road, and running east for 2kms. Then, directly south to the eastern boundary of Pt Lot 5 then west to the north west corner of Lot 500 Rhodes Road then, south to connect with Rhodes Road, west along the southern boundaries of Lots 43 and 42, Wellesley Road and Lot 122 Old Coast Road. Then north along Old Coast Road to a point 500m north of the intersection with Wellesley Road then, directly east along the northern boundary of Lot 10 Wellesley Road, then directly north along Runnymede Road to the starting point.

Precinct Policy Area Statements

The area is generally well vegetated with good stands of woodland. Most of the area is well drained, but parts in the east are low lying and swamp prone. The vegetated areas are generally suited to special rural zone subdivision for rural residential retreat purposes. The country is light sandy soils liable to erosion from stock.

The western part of the area is on Spearwood association soils and ground water quality and availability for domestic purposes is good. This is limited to 1,500 cubic metres per year per lot. Ground water in the eastern part of the Precinct Area is plentiful but subject to much higher salinities.

(ss) All land within the Precinct Area will remain zoned as "General Farming" until:

(a) The findings of a high level study on the prospect of extending Kemerton Industrial Park, incorporating a deep water port, can be presented to Local government.

PRECINCT AREA 9 - WELLESLEY NORTH

Boundaries

The starting point is the south east corner of Pt. Lot 5 Wellesley Road, then north along the eastern boundary of Precinct Area 8, to the southern boundary of the State Forest No. 16, then generally eastwards along the boundary of the "Intensive Farming" zone as shown on the District Planning Scheme, then generally south east along this zone boundary to the intersection of Campbell Road, then generally south west to the intersection of the main alignment of Arthur Road and Campbell Road, then west along the northern boundary of Precinct Area 6 to the starting point. The area measures approximately 2,400 hectares.

Precinct Policy Area Statements

This Precinct Area is generally made up of low lying, swamp prone area in swales between low Bassendean dunes leading to very flat swampy Serpentine River soils. The natural drainage has been substantially altered, wetlands have been drained and the area has been substantially cleared as summer grazing.

(tt) This interference has caused the onset of potential leached phosphate ground water pollution and soil degradation problems. It is an area that requires remedial conservation agricultural practices. It is desirable that much of the area be replanted with trees.

(uu) Those wetlands that have not already been cleared and drained and still retain their perimeter vegetation are considered most important environmental conservation areas. Further draining and or clearing of swamps and wetlands should be discouraged.

(vv) The area is not suited to intensive land uses and should be retained in broad acre holdings. The few remaining vegetated dunes should not be further subdivided for special rural zones as they are environmentally fragile and subject to erosion. This would aggravate the situation.

(ww) Ground water has generally higher salinity levels not suitable for consumption although tolerated by sheep. Water is not suitable for irrigation purposes.

(xx) Land improvement by limiting land use intensity should be the main policy for this area.

(yy) Approval has been granted by the Environmental Protection Authority for the extraction of silica sands from a large area of land within this Precinct Area.

PRECINCT AREA 10 - PRESTON COASTAL STRIP

Boundaries

The area is bounded by the coast on the west, the Shire boundary on the north, the Yalgorup National Park on the east (Lake Preston) and the southern boundary of Lot 36, Myalup on the south. The area measures approximately 2,070 hectares.

Precinct Policy Area Statements

(zz) This area should be retained as a low intensity rural land use area in broad acre holdings. Its limited access, fragile soils, and proximity to Lake Preston which is vulnerable to pollution and foreshore degradation requires that it be conservatively managed.

(aaa) The area is not suitable for rural residential purposes. For these reasons it is a natural area to be considered for the future extension of Yalgorup National Park which adjoins it.

(bbb) At the same time the area has a high amenity value and would be suitable for low intensity non-commercial tourist and recreational use. Such uses would require comprehensive environmental impact statements and management plans prior to receiving approval.

(ccc) Local government controls beach access. Such access should be restricted to the more stable areas and be subject to management and policing in consultation with the Department of Conservation and Land Management.

PRECINCT AREA 11 - YALGORUP NATIONAL PARK

Boundaries

The boundaries are as defined on the District Scheme Map but including Lots 1151, 1195 and 1194 which otherwise jut into the Park.

Precinct Policy Area Statements

(ddd) The Park has high amenity value for both conservation and recreational use. Lake Preston, in particular has the potential for active and passive recreation.

(eee) Because the boundaries of the park include Lake Preston and not the adjacent shore, any development of tourist/recreational facilities should be subject to environmental impact assessments and management plans. Any further such development along the foreshore shall be subject to the surrender of a minimum 100 metre wide foreshore reserve to be zoned "Recreation" and "Conservation".

(fff) The use of the Lake and peripheral areas for recreation should also be subject to flexible management and control by the Department of Conservation and Land Management to accommodate seasonal fluctuations in water level, or fluctuations due to drought or exceptional heavy rains.

PRECINCT AREA 12 - NORTHERN LAKELANDS AREA

Boundaries

The area is bounded on the west and north by the Yalgorup National Park and the Shire boundary, on the east by the State Forest No. 16 and on the south by Myalup Beach-Road and the alignment of Road No. 968. The area measures approximately 6,000 hectares.

Precinct Policy Area Statements

(ggg) The area should be a landscape protection area. It is predominantly parkland cleared and has an open park like rural character. It is mostly used for grazing and is held in broadacre lots.

(hhh) The ground water resources for irrigation in the area are fully committed but some rationalisation of the irrigated areas away from the concentrated pattern of fairly large irrigated areas to small horticultural zones may be possible. This would achieve a more even ground water extraction.

(iii) The combination of high landscape value, good grazing and agricultural potential make this land too valuable for subdivision for rural residential/hobby farms. It is also relatively isolated from service centres. No rezoning or subdivision for non-agricultural purposes should be permitted.

(jjj) Specific foreshore areas along Lake Preston have been identified (in the Lakelands Study 1984) as having potential for tourist/recreational developments. Such developments should be subject to environmental impact assessments and management plans.

PRECINCT AREA 13 - STATE FOREST NO. 16

Boundaries

The boundaries for this Precinct Area are as defined for State Forest purposes on the Scheme Map. The area measures approximately 6,060 hectares. It includes the nature Reserve on Reserve No. 24472 on the southern side of Crampton Road.

Precinct Policy Area Statements

This Precinct Area is administered by the Department of Conservation and Land Management. The forests have considerable potential for recreational/educational activities. The forest is subject to ongoing management, development and conservation by the Department of Conservation and Land Management.

PRECINCT AREA 14 - CRAMPTON ROAD CENTRAL

Boundaries

The area is bounded on the south and west by State Forest No. 16, on the north by a line as depicted on-Overlay 2 to the Land Use and Characteristics Map as being the Peel Harvey Catchment boundary and on the east by the boundary of the "Intensive Farming" zone as depicted on the District Scheme Map. The area measures approximately 3,670 hectares.

Precinct Policy Area Statements

The Precinct Area has two sub areas:

The north western Part is a small enclave bounded on three sides by State Forest No. 16. It is predominantly well wooded and on better drained Spearwood and Bassendean sands. Ground water supply is good and although some areas have higher salinity the quality is generally suitable for domestic use.

(kkk) The introduction of rural residential development in this enclave would increase the fire hazard to the adjoining pine plantations in the State Forest. The area is therefore not considered suitable for special rural zones unless it can be demonstrated to the satisfaction of the Department of Conservation and Land Management that fire will not be any more of a risk than it is now.

The eastern and southern part of the Precinct Area is similar to Precinct Area No. 9. Most of the area is low lying between low Bassendean dunes and swamp prone land. The natural drainage of the area has been substantially modified and swamps drained for summer grazing.

The agricultural/grazing potential of this area is poor and land uses should remain extensive. The area has also been substantially cleared and is prone to phosphate and ground water pollution problems.

(lll) Those wetlands that remain intact with perimeter vegetation are considered environmentally important. Further drainage of wetlands should be discouraged.

(mmm) Ground water salinity is generally too high for domestic or stock purposes, except sheep, and too high for irrigation.

(nnn) The eastern part of the Precinct Area is not generally suitable for special rural zones.

(ooo) Minor expansion of the existing Special Rural zones south of Forestry Road, may be considered by Local government.

PRECINCT AREA 15 - SOUTH HARVEY INTENSIVE FARMING AREA

Boundaries

The area is comprised of the "Intensive Farming" zone north of Mitchell Road, Benger, and south of the Peel Harvey Catchment boundary as depicted on the rural strategy Map. The area measures approximately 8,090 hectares.

Precinct Policy Area Statements

The Precinct Area is mostly located on Guildford formation soils. These are very flat gravelly clay type loams. It is predominantly cleared irrigated pasture used for dairy and beef cattle.

The Precinct Area around Harvey includes Dardanup loams which are the best agricultural soils in the region. The Precinct Area is not in the Peel Harvey Catchment area and therefore the areas covered by these soils have the best potential for horticultural development. The concentration of intensive agriculture/horticulture on the Dardanup loams in this Precinct Area will depend on the rationalisation of water resources from less productive pastures. This process likely to take some time and is dependent on a change to current legislation to allow the alienation and concentration of water rights.

(ppp) Much of the area of Dardanup loams is already subdivided down to four hectares. The remaining areas should therefore be protected from alienation from agriculture in anticipation of these future trends.

The Department of Agriculture is currently undertaking a detailed assessment of soils capability for agriculture. The outcome of this work could mean a change in policy whereby those parts of the current "Intensive Farming" zone less productive could be considered for other purposes. The western part of this Precinct Area is subject to salinity problems that will ultimately require remedial measures. Re-planting of trees should be encouraged.

(qqq) Until such time as these issues have been resolved no subdivision for non agricultural purposes should be permitted.

PRECINCT AREA 16 - HARVEY NORTH INTENSIVE FARMING AREA

Boundaries

Starting at the Harvey River bridge on the South West Highway, the boundary follows the Peel Harvey Catchment boundary as depicted on Overlay 2 to the Land Use and Characteristics Map to the western boundary of the "Intensive Farming" zone, then northwards and eastwards along the zone boundary to Thompson Road, then east along Thompson Road to the South Western Highway, then south along the Highway to the starting point at the Harvey River bridge. The area measures approximately 3,715 hectares.

Precinct Policy Area Statements

The area is predominantly cleared very flat Guildford Formation and Dardanup Loam soils. The Guildford Formation soils are predominantly used for irrigated pasture while the Dardanup loams in this area are used for a combination of orange orchards, some horticulture but mainly irrigated pasture. These uses are likely to continue.

(rrr) This area is within the Peel Harvey Inlet Catchment and requires special consideration in terms of the Interim Catchment Policies. (See Section 7.5, and any developments are to be assessed, taking into consideration environmental advice provided by the Environmental Protection Authority and Agriculture Western Australia, prior to Local government consent.

(sss) As with Precinct Area 15, this area is subject to a detailed soils capability analysis by the Department of Agriculture and could undergo a land use/water use rationalisation in time. Until these issues are fully understood, no subdivision for non agricultural purposes should be permitted.

(ttt) Prior to Local government considering a rezoning or subdivision application the applicant shall provide, where applicable, sufficient advice as to the existence of any natural resources.

PRECINCT AREA 17 - HARVEY RIVER NORTH PRECINCT

Boundaries

The area is bounded on the south by the Peel Harvey Catchment boundary as depicted on Overlay 2 to the Land use and Characteristics Map, on the west by State Forest No. 16 on the north by the Shire boundary and on the east by the western boundary of the "Intensive Farming" zone as depicted on the District Scheme Map. The area measures approximately 8,010 hectares.

Precinct Policy Area Statements

The area is part of the Guildford Formation soils. It is predominantly cleared and very flat. It is used mostly for irrigated pasture. The western part is subject to salinity problems.

(uuu) Tree planting on a large scale should be encouraged on those areas of land not irrigated or used for pasture.

(vvv) In line with statements for Precinct Areas 15 and 16 no subdivision for non agricultural purposes should be permitted until such time as the implications of the current Department of Agriculture land capability study are fully understood.

(www) Any development within this area will require Environmental Protection Authority and Department of Agriculture approval prior to Local government consent in accordance with Section 7.5 of the -Town Planning Scheme.

PRECINCT AREA 18 - COOKERNUP - YARLOOP RURAL

Boundaries

The area is bounded by Thompson Road on the south, the boundary of the "Intensive Farming" zone on the west, the Shire boundary on the north, the South Western Highway and the eastern edge of the Wagerup townsite, to the east. The area measures approximately 4,375 hectares.

Precinct Policy Area Statements

The area is in the Peel Harvey Inlet Catchment and subject to the policies described in Section 8.5.

(xxx) Suitable areas for Special Rural subdivision have been identified as immediately adjacent to the existing townsites. Social facilities, shops, schools, hospitals, etc. are nearby at Harvey and are serviced by the local school bus service. The area south of Clifton Road and north of Thompson Road has significant potential for horticultural development according to Department of Agriculture land capability data, and any Special Rural subdivision proposal for this area should reflect this in its design by creating larger lots suitable for horticultural pursuits to the satisfaction of Local government and the Department of Agriculture.

(yyy) All rezonings for Special Rural zones shall comply with Clause 5.3 of the Scheme.

(zzz) The areas east of the railway consist of gravelly loam soils more resistant to erosion and suitable for minor stock holding.

(aaaa) The areas west of the railway are not suitable for special rural zone subdivision. The area is predominantly cleared and used as irrigated pasture.

(bbbb) The replanting of trees on a large scale should be encouraged.

(cccc) Prior to Local government considering a rezoning or subdivision application the applicant shall provide, where applicable, sufficient advice as to the existence of any natural resources.

PRECINCT AREA 19 - NORTHERN DARLING SCARP - FOOTHILLS LANDSCAPE UNIT

Boundaries

The area is bounded on the south by the Harvey-Quindanning Road, on the west by the South Western Highway, on the north by the Shire boundary and on the east by the boundaries of State Forests No. 14 and No. 15. The area measures approximately 5,100 hectares.

Precinct Policy Area Statements

The western part of the Precinct Area is the Darling foothills, recommended for protection in the System 6 Study. The whole Policy Area should be considered a landscape protection area. The area is mostly parkland cleared and used for winter grazing. This winter grazing is a most important complementary use to the irrigated pasture in the "Intensive Farming" zone.

The Precinct Area is made up of two sub-areas:

The western part, as depicted on the Rural Strategy Policy Map is that area which is visible from the South West Highway.

(dddd) All development should be kept to a minimum on these exposed slopes. With the exception of the Warawarrup Special Residential Zone which is suitable for minor expansion according to demand, special rural subdivision is not appropriate.

(eeee) The eastern "inner" part of the Precinct Area away from South Western Highway may be suitable for isolated small special rural "retreat" zones subject to the area being substantially vegetated and subject to satisfactory access arrangements. The area is relatively isolated and houses will be dependent on rainwater tanks for water supply. The area is not suitable for permanent residence and would remain a weekend retreat style development.

(ffff) Although this is not a high priority area it could provide for alternative types of development and landuse, and should be considered in the short to medium term. In any event only one or two small special rural zones may be permitted on uncleared property closer to Logue Brook dam so as not to diminish the grazing potential of the area.

(gggg) Prior to Local government considering a rezoning or subdivision application the applicant shall provide, where applicable, sufficient advice as to the existence of any natural resources.

PRECINCT AREA 20 - EAST HARVEY ENVIRONS

Boundaries

The area is bounded by Harvey-Quindanning Road on the north, the eastern boundaries of Lots 57 and 9 on the east, the northern boundary of Lot 4 Logue Road and Logue Road on the south and the South Western Highway on the west. The area measures approximately 750 hectares.

Precinct Policy Area Statements

This area is considered a priority area for Residential, Special Residential and Special Rural development. It is relatively close to the centre of Harvey, and all social facilities and essential services are readily available.

Most of the area is very well vegetated, and not visible from the South Western Highway or other scenic routes.

(hhhh) All subdivision for Residential and Special Residential development shall comply with the approved structure plan adopted by Local government.

(iiii) All rezonings for Special Rural zones shall comply with Clause 5.3 of the Scheme.

(jjjj) Developments can and should be serviced with reticulated water from Harvey, because it is likely that most occupants will be permanent residents. For subdivisions not requiring connection to reticulated sewerage, Local government may require the use of alternative wastewater systems.

(kkkk) No trees shall be removed without the prior consent of Local government, and where appropriate, building envelopes are to be specified in a manner that minimises the need to remove existing trees.

(llll) Cleared areas shall be subject to a revegetation programme, requiring landowners to plan a minimum density of trees specified by Local government capable of growing to at least 3 metres, within tree planting areas identified on the subdivision plan, prior to subdivision.

PRECINCT AREA 21 - HARVEY WEIR/QUINDANNING ROAD AREA

Boundaries

The area comprises the privately owned land east of Harvey townsite. It is bounded on the west by the eastern boundaries of Lots 57 and 9 (the same as for Precinct Area 20) and then by the southern boundaries of Lots 30 and 29 Quindanning Road. Thereafter the boundary of the Precinct Area on the south, east and north is the boundary of State Forest No. 15. The area measures approximately 4,300 hectares.

Precinct Policy Area Statements

This area is predominantly cleared or parkland cleared and used for winter grazing.

(mmmm) It should be retained as a predominantly rural area for this important use. No subdivision or zoning for non-agricultural purposes should be permitted.

PRECINCT AREA 22 - SOUTHERN FOOTHILLS LANDSCAPE UNIT

Boundaries

The area is bounded by the South Western Highway on the West, Logue Road on the north and a line taken along the crests of ridges and hills assessed as being the extent of the visible slopes from South Western Highway. The area measures approximately 3,950 hectares.

Precinct Policy Area Statements

This area is a priority landscape protection area recommended for protection in the System 6 Study. The topography in places is steep with slopes exceeding 30%. At present it is cleared or parkland cleared and is used for winter refuge grazing.

(nnnn) It should be retained as a predominantly rural area for this important use. No subdivision or zoning for non-agricultural purposes should be permitted.

There are a noticeable amount of buildings in exposed locations on hill tops and skylines located to take advantage of the views across the coastal plain. However, if the trend continues the increased number of buildings will detract from the hills landscape as seen from the South Western Highway.

(oooo) This trend should be discouraged. Where existing houses are in exposed locations owners should be encouraged to introduce partial screening of the building by planting.

(pppp) Prior to Local government considering a rezoning or subdivision application the applicant shall provide, where applicable, sufficient advice as to the existence of any natural resources.

PRECINCT AREA 23 - COALFIELDS ROAD LANDSCAPE UNIT AND SOUTHERN COLLIE RIVER SPUR

Boundaries

The area is bounded on the west by the South-Western Highway, on the north by a line taken along the crests of ridges and hills assessed as being the limit of visibility from Coalfields Road, and on the east and south by the Shire boundary. The area measures approximately 6,330 hectares.

Precinct Policy Area Statements

The Coalfields Road rises from the coastal plan to a high point in the scarp from which there are wide ranging views across the hills and the coastal plain. This makes the route an important scenic route and similar considerations apply as for Precinct Area 22. It is also important for winter refuge grazing.

(qqqq) It should be retained as a predominantly rural area for this important use. No subdivision or zoning for non-agricultural purposes should be permitted.

(rrrr) Areas visible from Coalfields Road are not generally considered suitable for special rural zone development.

(ssss) There is however potential for a tourist development to take advantage of the magnificent view from a plateau area on the northern side of Coalfields Road on Lot Pt. 21. The area is on an elevated spur but screened from the road by remnant vegetation.

PRECINCT AREA 24 - INNER HILLS AREA

Boundaries

The inner hills area is taken as the area not visible from the South Western Highway or Coalfields Road as far east as the boundary of State Forest No. 15. The area measures approximately 9,490 hectares.

Precinct Policy Area Statements

This area of rolling topography is predominantly cleared parkland cleared. It is used mostly for winter grazing.

(tttt) Limited opportunities for one or two small special rural zones for "weekend rural retreat" type development may be appropriate in unexposed locations with good tree cover. Water supply is limited to rainwater tanks. The area is relatively isolated from schools and other social services.

(uuuu) All rezonings for Special Rural zones shall comply with Clause 5.3 of the Scheme.

(vvvv) Development should be kept away from hilltops, ridges or other skylines where the visual impact is greatest.

(wwww) This area is not considered a priority area for special rural zones. Proposals should be subject to detailed landscape protection assessments. No subdivision of cleared areas should be permitted until such time as the intended area has been replanted and trees have reached a minimum average height of 3 metres. This requires about a three year lead time for planting subject to good husbandry of the new trees.

(xxxx) Aside from the minor development opportunities for subdivision discussed above, the area should be retained as a broadacre winter refuge grazing area. No subdivision or zoning for non-agricultural purposes should be permitted.

(yyyy) Replanting of all the cleared areas should be encouraged

PRECINCT AREA 25 - DARLING PLATEAU STATE FORESTS NO. 14 AND NO. 15

Boundaries

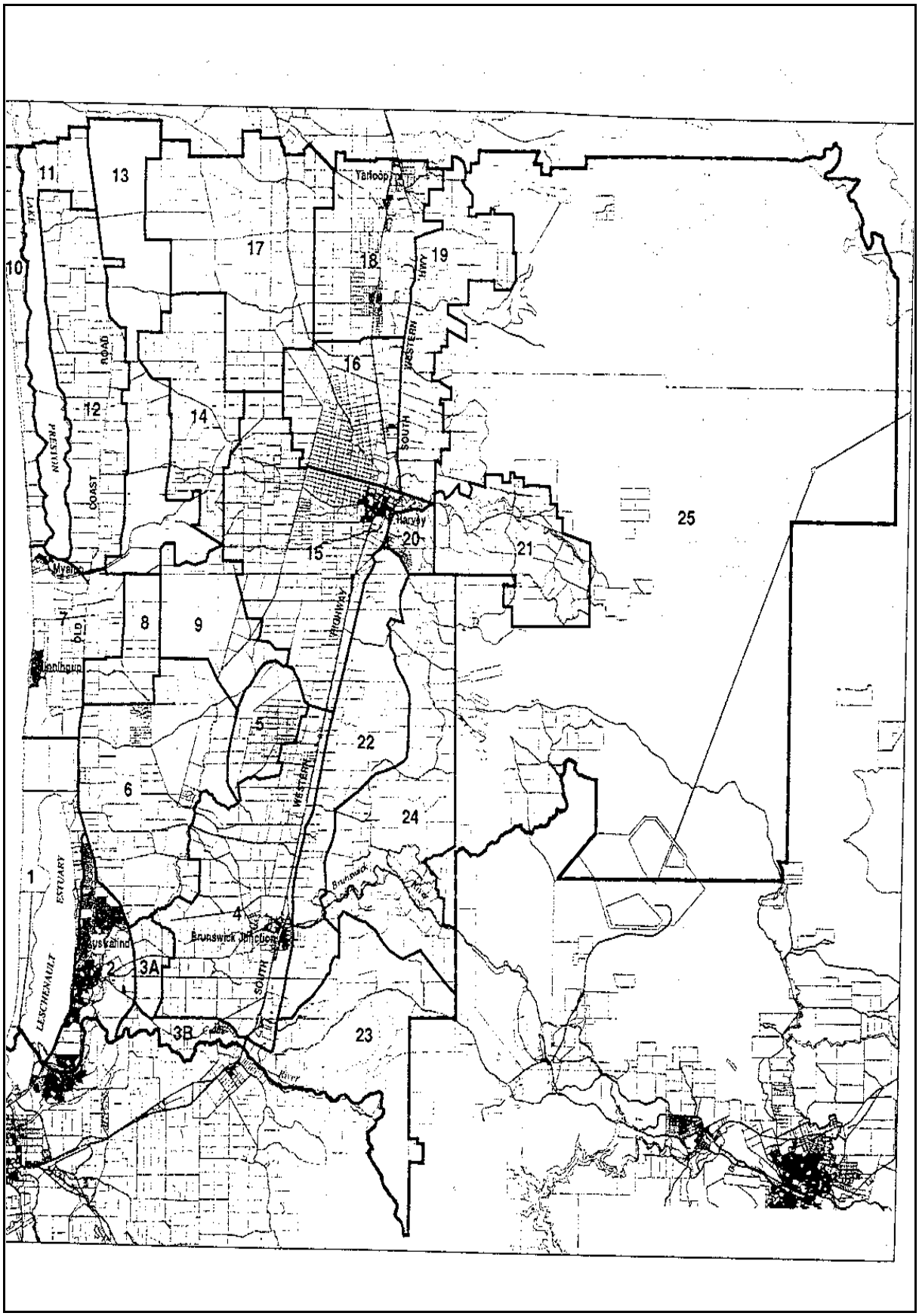
The boundaries are those of State Forests No. 14 and No. 15 that fall within the Shire of Harvey. The area measures approximately 64,300 hectares.

Precinct Policy Area Statements

The area is administered by the Department of Conservation and Land Management who have policies to progressively develop recreational opportunities in the area particularly around dams and the Harvey River Valley.

The escarpment area is an especially important scenic attraction area and views from the scarp are as important as view of the scarp. Boundary road is a popular scenic drive providing panoramic views across the coastal plain. It is important therefore that no development on the plain particularly around the Wagerup area be permitted that would unduly impinge on this view.

SCHEDULE 12A - PRECINCT BOUNDARY BOUNDARIES



SCHEDULE 13 - EXEMPTED ADVERTISEMENTS

Pursuant to Clause 8.9.3.

AND USE AND/OR DEVELOPMENT REQUIRING ADVERTISEMENT	EXEMPTED SIGN TYPE AND NUMBER (Includes the change of posters on poster signs and applies to non-illuminated signs unless otherwise stated)	MAXIMUM AREA OF EXEMPTED SIGNAGE
Dwellings	One professional name-plate as appropriate.	0.2m^2
Home Occupation	One advertisement describing the nature of the home occupation.	0.2m^2
Places of Worship, Meeting Halls and Places of Public Assembly	One advertisement detailing the function and/or the activities of the institution concerned.	0.2m^2
Cinemas, Theatres and Drive-In Theatres	Two signs (illuminated or non-illuminated) detailing the entertainment being presented from time to time at the venue upon which the signs are displayed.	Each advertisement sign not to exceed 5m^2.
Shops, Showrooms and other uses appropriate to a Shopping Area	All advertisements affixed to the building below the top of the awning or, in the absence of an awning, below a line measured at 5 metres from the ground floor level of the building subject to a compliance with the requirements of the Signs Hoarding and Bill Posting Bylaws.	N/A
Industrial and Warehouse Premises	A maximum of 4 advertisements applied to or affixed to the walls of the building but not including signs which project above the eaves or the ridge of the roof of the building, and excluding signs projected from a building whether or not those signs are connected to a pole, wall or other building. A maximum of two free-standing advertisement signs not exceeding 5m in height above ground level.	Total area of any such advertisements shall not exceed 15m^2. Maximum permissible total area shall not exceed 10m^2 and
Showroom, race courses, major racing tracks, sports stadia, major sporting grounds and complexes	All signs provided that, in each case, the advertisement is not visible from outside the complex or facility concerned either from other private land or from public places and streets.	N/A
Public Places and Reserves	a) Advertisement signs (illuminated and non-illuminated) relating to the functions of government a public authority or Local government or a municipality excluding those of a promotional nature constructed or exhibited by, or on behalf of any such body; b) Advertisement signs (illuminated and non-illuminated) required for the management or control of traffic on any public road, carpark, cycleway, railway or waterway where such advertisement has been constructed or exhibited by or at the direction of a Government department, public authority or the Local government of a municipality; and c) Advertisement signs (illuminated and non-illuminated) required to be exhibited by or pursuant to any statute or regulation or the like made pursuant to powers contained within a Statute provided that any such advertisement is constructed and/or exhibited strictly in accordance with the requirements specified therein.	N/A N/A
Railway Property and Reserves	Advertisement signs exhibited on such land provided that each advertisement is directed only at persons at or upon railway station.	No sign shall exceed 2m^2 in area.
Advertisements within Buildings	All advertisements placed or displayed within buildings which cannot ordinarily be seen by a person outside of those buildings.	N/A
All classes of buildings other than single family dwellings	One advertisement sign containing the name, number and address of the building, the purpose for which the building is used or the name and address of the managing agent thereof.	0.2m^2

SCHEDULE 13 - EXEMPTED ADVERTISEMENTS (CONT'D)

Pursuant to Clause 8.9.3.

TEMPORARY SIGNS	EXEMPTED SIGN TYPE AND NUMBER (All non-illuminated unless otherwise stated)	MAXIMUM AREA OF EXEMPTED SIGN
Building Construction Sites (advertisement signs displayed only for the duration of the construction as follows:		
i) Dwellings	One Advertisement per street frontage containing details of the project and the contractors undertaking the construction work.	$2m^2$
ii) Multiple Dwellings, Shops, Commercial and Industrial projects	One sign as for (i) above.	$5m^2$
iii) Large Development or redevelopment projects involving shopping centres, office or other buildings exceeding 3 storeys in height.	One sign as for (i) above.	$10m^2$
Sales of Goods or Livestock	One additional sign showing the name of the project builder.	$5m^2$
Property Transactions	One sign per lot displayed for a period not exceeding 3 months advertising the sale of goods or livestock upon any land or within any building upon which the sign is exhibited provided that the land is not normally used for that purpose.	$2m^2$
Advertisement signs displayed for the duration of the period over which property transactions are offered and negotiated follows:		
a) Dwellings	One sign per street frontage for each property relating to the sale, leasing or impending auction of the property at or upon which the sign is or the signs are displayed.	Each sign shall not exceed an area of $2m^2$.
b) Multiple Dwellings, Shops, Commercial and Industrial Properties	One sign as for (a) above.	Each sign shall not exceed an area of $5m^2$.
c) Large properties comprised of shopping centres of four storeys and rural properties in excess of 5ha.	One sign as for (a) above.	Each sign shall not exceed an area of $10m^2$.
Display Homes		
Advertisement signs displayed for the period over which homes are on display for public inspection.	i) One sign for each dwelling on display. ii) In addition to (i) above one sign for each group of dwellings by a single project builder giving details of the project building company and details of the project building company and details of the range of dwellings on display.	$2m^2$ $5m^2$

SCHEDULE 14 - WESTRAIL LEASES

LESSEE	LOCATION	PURPOSE	AREA
Harvey Shire	Yarloop	Beautification	1.4697 ha
Harvey Shire	Yarloop	Loading Ramp	110.00m^2
Water Authority of WA	Cookernup	Irrigation Channel	1060.00m^2
WA Livestock Salesmens Assoc.	Warawarrup	Site for Cattle Yard	350.00m^2
Harvey Shire	Harvey	Community Purposes	175.00m^2
Cesare A	Harvey	Cultivation	3243.00m^2
Harvey Shire	Harvey	Shire Depot	2491.00m^2
Harvey Shire	Harvey	Storage	270.00m^2
Murnieks K	Harvey	Residence	670.00m^2
Harvey shire	Harvey	Museum Beautification, Parking	3765m^2
Harvey Shire	Brunswick Junction	Roadway	2053.00m^2
Okulewicz J	Brunswick Junction	Residence	904.00m^2
WA Livestock Salesmens Assoc.	Brunswick Junction	Stock Sale yards	2.3724ha
Catalano C	Brunswick Junction	Residence	665.00m^2
Fitzpatrick & Williamson	Brunswick Junction	Residence	1005.00m^2
Harvey Shire	Brunswick Junction	Beautification	7934.00m^2
Westralian Farmers Pty Ltd	Brunswick Junction	Sale yards	3360.00m^2
Frisina M & A	Brunswick Junction	Residence	726.00m^2
Fry JG	Brunswick Junction	Access Road	1.00m^2
Anderson GP	Roelands	Residence	2023.00m^2
Harvey Shire	Roelands	Beautification	7500.00m^2
Baton KB & BB	Beela	Grazing/Cultivation	9821.00^2
Hosford KG	Wokalup	Service Stn/Roadhouse/Parking	3143.00m^2

SCHEDULE 15 - ADDITIONAL REQUIREMENTS - RESIDENTIAL

AMD 6 GG 15/8/00

Clause 5.6 applies.

Area 1: LESCHENAULT ESTATE

The area shown on the Scheme Map bounded by the Brunswick River, Australind By-pass and Clifton Close, Australind.

1. Subdivision and Development Criteria for land designated in the approved Structure Plan as "Special Rural".

   (a) Subdivision shall be carried out generally in accordance with the approved structure plan adopted by Local government and the Western Australian Planning Commission.

   (b) A minimum lot size of 0.6 hectares shall apply.

   (c) Residential development shall not be permitted unless the lot is fully connected to reticulated sewers.

   (d) All building envelopes shall be above the 1:100 year flood level shown on the approved structure plan.

   (e) all buildings shall be set back a minimum of 5 metres from the side boundaries and 10 metres from the street frontage.

   (f) No dwelling house, outbuildings, or structure shall be constructed unless it is within the building envelope defined on an approved subdivisional development plan.

   (g) Fencing within the area shall retain the rural character of the area and the use of fibro cement, metal sheeting or wooden pickets as boundary fencing is prohibited.

   (h) Local government shall at the time of subdivision approval, require the planting and maintenance of the equivalent of 100 trees per hectare capable of growing to 3 metres in height on the lots. Revegetation shall be to the satisfaction of Agriculture WA, Leschenault Inlet Management Authority and Local government.

   (i) The developer is required to maintain the revegetated areas and replace any dead plants for a period of 2 years from the date of planting, or until the date of the sale of the land, whichever is the lesser.

   (j) Local government shall not consent to the agistment or stabling of more than one horse or the like.

   (k) Future owners of the lots shall be required to maintain the planting.

2. Subdivision and Development Criteria for land designated in the approved Structure Plan as Special Residential.

   (a) Development shall comply with the R5 Residential Density Code.

   (b) Subdivision shall be carried out generally in accordance with the approved Structure Plan adopted by Local government and the Western Australian Planning Commission.

   (c) A minimum lot size of 0.2 hectares shall apply.

   (d) Residential development shall not be permitted unless the lot is fully connected to reticulated sewers.

(e) All buildings shall be set back a minimum of 5 metres from the side boundaries, and 10 metres from the street.

(f) No clearing shall be permitted within a 50 metre buffer measured from the Australind By-pass Reserve.

(g) Planting and maintenance of the equivalent of 100 trees per hectare capable of growing to 3 metres in height shall be carried out at the time of subdivision approval, to the satisfaction of Agriculture WA and Local government.

(h) The developer is required to maintain the vegetated areas and replace any dead plants for a period of 2 years from the date of planting or until the date of ale of the land, whichever is the lesser.

(i) Future owners of the lots shall be required to maintain the planting.

3. Subdivisional and Development Criteria: General

(a) A Shopping Centre having a retail GLA floorspace of 3,000m^2 may be constructed on the proposed Neighbourhood Shopping Centre site, as shown on the approved Outline Development Plan, subject to the development conforming to all relevant Local government statutory requirements and policies. The floorspace limitation:

(i) does not include service station, fast food and other non-retail floorspace which may be required; and

(ii) approval of up to 4,500m^2 GLA may be considered if justified in an approved Commercial Strategy.

(b) The developer, as a condition of rezoning, is required to enter in to a legal agreement with the Local government to contribute towards (on a proportional basis) the cost of the construction of a bridge over the Collie River and associated roads and District Distributor roads, as required by Local government, including Local government's administration costs, on condition that funds or bank guarantee so paid or given by the developer, at the subdivision clearance stage (but prior to the finalisation of a Scheme Amendment introducing appropriate contribution provisions for these works into the Scheme) shall be held in trust by Local government pending the finalisation of that further Amendment to the Scheme.

Clause 5.6 applies.

Area 2: TREENDALE FARM *AMD 70 GG 31/3/09*

The area is defined on the Scheme Amendment Map and described as Portion of Wellington Location 1, and the southern portion of Lot 201 Ditchingham Place, Australind.

(i) Subdivision and Development Criteria for land designated in the approved Structure Plan as Landscape Buffer Special Residential R5.

(a) Development shall comply with the R5 Residential Density Code.

(b) subdivision shall be carried out generally in accordance with the approved Structure Plan adopted by Local government.

(c) A minimum lot size of 0.2 hectares shall apply.

(d) Residential development shall not be permitted unless the lot is fully connected to reticulated sewers.

(e) All buildings shall be set back a minimum of 5m from the side boundaries and 10 metres from the street frontage.

(f) No clearing shall be permitted within a 40 metre buffer measured from the Australind Bypass Reserve.

(g) Planting and maintenance of the equivalent of 100 trees per hectare capable of growing to 3 metres in height shall be carried out at the time of subdivision approval, to the satisfaction of Agriculture W. A. and Local government.

(h) The developer is required to maintain the revegetated areas and replace any dead plants for a period of 2 years from the date of planting or until the date of sale of the land, whichever is the lesser.

(i) Future owners of the lots shall be required to maintain the planting.

(ii) Development criteria for the land designated in the approved Structure Plan as Service Commercial and Tavern/Fast Food.

(a) Development of the land set aside in the structure plan for Service Commercial, Tavern/Fast Food and Mixed Use shall be subject to preparation of a further detailed structure plan to Local government's specification and satisfaction with the objective of creating an integrated and cohesive development with the adjoining District Centre. The detailed structure plan is also to address the components of the District Shopping Centre Structure Plan referred to in Schedule 8 - Restricted Uses and all retail floorspace is to be included within the floorspace restriction imposed on the District Centre.

(iii) Local government will not support development within a 400m buffer of the Waste Water Treatment Plant site situated north of Ditchingham Place prior to relocation of the Treatment Plant or the written approval of the Water Corporation that the proposed use is acceptable.

(iv) Subdivision and development shall generally be in accordance with The Treendale Structure Plan as endorsed by Local government and the Western Australian Planning Commission.
AMD 57 GG 14/12/04

(v) District Centre *AMD 57 GG 14/12/04*

a) District Centre to be the subject of a detailed structure plan to guide development and subdivision and to be adopted by Local government and the Western Australian Planning Commission. The Structure Plan shall address and not be limited to the following matters:

i) desired streetscape objectives.
ii) landuse mix.
iii) staging of development.
iv) access and carparking.
v) community facilities.
vi) public space.
vii) permitted and discretionary landuses.

b) The proposed District Centre Structure Plan is to be advertised and considered in accordance with Section 5.6 of the Scheme.

c) Local government and the Western Australian Planning Commission will support the development of a district centre to a maximum net leasable area (nla) limit of 20,000m^2.

Area: 3 PART LOT 1000 BARNES AVENUE, AUSTRALIND *AMD 54 GG 29/10/04*

SUBDIVISION

(a) Subdivision and development shall generally be in accordance with the approved Outline Development Plan for the site.

(b) No further subdivision of the lots is permitted.

LAND USE

(c) All uses specified in Tables, 4, 5 and 6 (Residential Development Zone) of District Planning Scheme No. 1 are No Permitted with the exception of:

Dwelling with Reticulated Sewer – P
Home Occupation – IP
Outbuilding – P

DEVELOPMENT – GENERAL

(d) All development within the structure plan area requires Development Approval from Local government.

(e) Kit homes and transportables shall not be permitted.

(f) The maximum height of any building on any lot shall not exceed three storeys.

(g) Vehicle access ways of Lots 126 to 131 (lots west of the access road) shall be located adjacent to lot boundaries to minimise disturbance to vegetation and coincide with fire breaks.

BUILDING ENVELOPES

(h) Dwellings and outbuildings must be located within building envelopes as approved by Local government.

(i) With the exception of lot 122, no building envelopes are to be located east of the sewer line that traverses the site.

(j) Location of building envelopes is to; wherever possible take into consideration the location of identified pockets of rare and endangered species of vegetation.

(k) No clearing of vegetation is permitted outside of the approved building envelope except to provide site access, fulfil bushfire compliance requirements or remove trees which are dead, diseased or dangerous.

SITE WORKS

(l) Excavation and site works shall be minimised wherever possible.

(m) Excavation and site works shall be contained within the designated building envelope with the exception of works to accommodate an access driveway.

(n) On lots with building envelopes with a slope greater than 10%, namely Lots 128, 129 and 130 the earthworks are not to exceed 1.5 metres from the existing contour levels on site.

LANDSCAPING

(o) Additional planting of native trees and vegetation is encouraged, especially within front setbacks areas and the area adjacent to Barnes Avenue. This may be included as a condition of Development Approval issued for the subject lots.

ACCESS

(p) No direct vehicular access is permitted to Barnes Avenue.

BUILDING STYLE & FENCING

(q) Building materials that complement the natural vegetation are encouraged.

(r) Flexible framed/composite construction methods designed to address the existing ground contours is encouraged.

(s) All boundary fencing shall be constructed in a rural style using timber post and rail or timber post, star picket and wire.

(t) Solid fencing such as masonry, timber and fibre cement shall not be permitted except for the purposes of privacy, security and child safety within the nominated building envelope.

BUSHFIRE PROTECTION

(u) Development on the site shall comply with a bushfire management plan that has been endorsed by Local government and FESA.

OTHER CONSIDERATIONS

(v) General materials and goods are not to be stored in front setback areas or where they are noticeably visible to the access street or Barnes Avenue.

Area 3: PART OF LOT 333 OLD COAST ROAD, AUSTRALIND *AMD 58 GG 9/5/06*

SUBDIVISION

(a) Subdivision and development shall generally be in accordance with Plan No. 03265P-03 dated April 2004.

(b) No further subdivision of the 'Large' residential lots as specified on the Structure Plan, is permitted.

DEVELOPMENT – GENERAL

(c) Kit homes shall not be permitted unless deemed by Local government to be visually compatible with adjacent residential development.

(d) Outbuildings and other structures shall be located at the rear of dwelling houses and be designed and constructed to be visually compatible to the dwelling they are ancillary to.

(e) The maximum height of any building on any lot shall not exceed 3 storeys.

BUILDING SETBACKS

(f) Residential lots of less than 1,200m^2 in area shall comply with the R15 provisions of the R-Codes.

(g) Residential lots of 1200m^2 area or more shall comply with the R10 provisions of the R-Codes except that the rear setback shall be a minimum of 10 metres.

SITE WORKS

(h) Excavation and site works shall be minimised wherever possible.

(i) Excavation and site works shall be contained within the setbacks with the exception of works to accommodate an access driveway.

LANDSCAPING

(j) Additional planting of native trees and vegetation is encouraged, especially on lots adjoining the Old Coast Road reserve. This may be included as a condition of Development Approval issued for the subject lots.

ACCESS

(k) No direct vehicular access is permitted to Old Coast Road.

BUILDING STYLE & FENCING

(l) Building materials that complement the natural vegetation are encouraged.

(m) Pole housing is encouraged on lots with slopes of more than 5 degrees.

(n) Fencing directly adjacent to the foreshore reserve boundary shall be constructed of brick/masonry pier and metal grill infill or brick/masonry pier and open picket infill or similar to the satisfaction of Local government. No cement fibre or opaque fencing is permitted.

OTHER CONSIDERATIONS

(o) General materials and goods are not to be stored in front setback areas or where they are noticeably visible to the access street.

Area: 5 EAST AUSTRALIND - COLLIE RIVER PRECINCT *AMD 5 GG 20/3/07*

The area is defined in the Scheme Amendment Map and described as Portion of Wellington Location 2, Australind Bypass, Australind.

1. Local government will permit the development of a local shopping centre in accordance with the 'Australind Centres Commercial Strategy' adopted by Local government and the Western Australian Planning Commission.

2. The developer is required to contribute towards (on a proportional basis) the cost of the construction of a bridge over the Collie River and associated roads and District Distributor roads, as required under Shire of Harvey and Shire of Dardanup Joint Town Planning Scheme No 1 contribution provisions.

3. Subdivision and development shall generally be in accordance with the Treendale Structure Plan as endorsed by Local government and the Western Australian Planning Commission.

4. A landscape buffer is to be provided within a dedicated reserve (minimum width of 20m) on Location 2, adjoining Australind Bypass. Any application for subdivision on Location 2 shall detail the buffer treatment (supported by an acoustic report), services alignment and earth bund batter to the satisfaction of Main Roads and the Western Australian Planning Commission.

Area: 6 LOTS 3 AND 802 HINGE ROAD, HARVEY *AMD 76 GG 21/10/11*

(i) prior to any subdivision application being lodged, a Structure Plan must be prepared in accordance with Clause 5.6 of the Scheme.

(ii) At the time of Structure Planning a Local Water Management Strategy is to be prepared and submitted for assessment and endorsement by the Department of Water. This plan is to include advice and recommendations issued by the Environmental Protection Authority dated 27th July, 2009.

(iii) At the time of Subdivision the Local Government will recommend to the WAPC that the subdivider place a notification on titles to notify purchasers that the subject land is located adjacent to rural land and rural activity may have a nuisance effect on amenity.

(iv) At the time of subdivision the Local Government will recommend to the WAPC that the subdivider install buffer plantings to mitigate against potential spray drift from agricultural operations.

(v) At the time of subdivision the Local Government will recommend to the WAPC that the subdivider contribute to the funding of the upgrading of Hinge Road.

Area: 6 BINNINGUP BEACH SOUTH *AMD 63 GG 10/07/12*

This area relates to Lots 9003, 304 and 195, Lakes Parade, Binningup (the subject site).

1. Subdivision and development will be in accordance with the endorsed Structure Plan for the subject site.

2. The Structure Plan shall identify Local Scheme Reserves for the purpose of Conservation as delineated in Figure 1.

3. The Local Scheme Reserves for Conservation shown in the Structure Plan may be increased but not decreased from that shown in Figure 1.

4. Prior to the first subdivision approval, the developer shall prepare a Rehabilitation Plan for the Conservation Reserves shown in the approved Structure Plan to the satisfaction of the Shire of Harvey, with advice from the Department of Environment and Conservation.

5. The subdivider shall implement the Rehabilitation Plan, to achieve a minimum rehabilitation criteria defined in the Rehabilitation Plan.

6. The Structure Plan shall identify a minimum of 24.3 hectares as 'Residential— Bushland Conservation' area.

7. The Structure Plan will provide for a form of subdivision and development that balances the retention of the site's key topographical features with the principles of Liveable Neighbourhoods.

8. The Structure Plan will identify areas for which an Area Specific Plan is required to be prepared as a condition of approval of the relevant stage of subdivision, in order to facilitate the development of environmentally sustainable built form that has regard to the character of the area, incorporates solar passive design principles and that promotes the retention of key topographical features.

9. The Structure Plan design will designate a minimum of 20% of the total site area for inclusion in Regional Open Space (ROS) and Public Open Space (POS) respectively. The ROS will comprise the ROS zone depicted in the Greater Bunbury Region Scheme which adjoins the existing foreshore reserve. The POS will comprise a corridor generally aligned north-south for the purposes of establishing an ecological linkage. Implementation of this commitment will be assessed by the Shire of Harvey and the WAPC at subdivision.

10. Prior to final approval of the Structure Plan, the developer shall prepare a Sustainability Report that addresses ecosystem health, waste, energy, water and community issues to the satisfaction of the Shire of Harvey. The report may be in the form of an accredited rating system/tool for land development (such as EnviroDevelopment or equivalent) and will detail agreed targets and method of delivery for each of the above indicators. Specific elements to be considered will include -

    - Preservation and management of natural flora, fauna, habitats, landforms and ecological linkages;
    - Reducing greenhouse gas production from energy generation, consumption and transport;
    - Solar orientation of lots and solar access to buildings;
    - Minimising potable water demand (through rainwater storage, re-use of stormwater and wastewater and water efficiency within buildings and in landscapes);
    - Effective reuse/minimisation of waste streams through management of pre-, during- and post-construction surplus materials;
    - Designing for community, including designing out crime, housing diversity and provision of community facilities and amenities; and
    - Empowerment of the local community through active involvement and engagement in the planning and design process.

11. Prior to final approval of the Structure Plan, an Environmental Management Plan (EMP) shall be prepared for the subject site. The EMP will be prepared to the satisfaction of the responsible authority. The EMP will include -

- Delineation of management plan boundaries, detailing all management plans for the site and their respective management areas;
- Description of existing environment and the environmental values of the Conservation Reserve;
- Description of proposed land ownership and long term management arrangements;
- Description of the management actions proposed for construction phase, preconstruction, during construction and post construction to ensure environmental values are protected;
- Description of management recommendations for the Conservation Reserves such as: fencing, access, signage, fauna management, fire management, and weed control;
- Description of revegetation program to rehabilitate areas within the Conservation Reserves, including revegetation species, planting regime, monitoring requirements, success criteria and reporting requirements;
- Description of the mosquito characteristics of the site and identification of how project design will minimise creation of mosquito breeding areas and how the site will be integrated into the Shire of Harvey mosquito management program; and
- Description of an implementation schedule detailing, timing, responsibilities, funding arrangements, for recommended management actions.

12. Prior to final approval of the Structure Plan, the developer is to prepare a Local Water Management Strategy (LWMS) for the subject site to the specifications and satisfaction of the Department of Water with advice from the Shire of Harvey. The LWMS shall include but not be limited to the following—

- Description of existing site characteristics such as geology, hydrogeology, groundwater characteristics, groundwater quality and water dependant ecosystems;
- Identification of the principles and objectives for water cycle management, water sensitive urban design, water conservation and groundwater management;
- A derivation of agreed water quality targets for urban stormwater and drainage treatment system(s) and onsite groundwater;
- Identification of a target proportion of domestic water supply that can be practically supplied through rainwater harvesting and rainwater tanks. Description of the rainwater tanks size requirements needed to integrate them into the dwelling water supply system;
- Identification of the range of water efficient fixtures which could be incorporated into the future dwellings and the potential water savings associated with each;
- Identification of potential grey water re-use treatment and infrastructure requirements and reuse water supply options. Identification of the approvals that would be required if these systems were to prove viable;
- Detailed pre and post development total water balance;
- Description of the proposed stormwater management infrastructure including incorporation of Water Sensitive Urban Design principles;
- Identification of issues to be addressed through subdivision and development; and;
- Identification of responsibilities and timeframes for implementing the approved Local Water Management Strategy.

13. Prior to final approval of the Structure Plan, the developer is to prepare a Strategy in regard to the construction standard and timing of the proposed second access road to Old Coast Road to the satisfaction of Local government and the Department of Fire and Emergency Services.

14. Prior to final approval of the Structure Plan, the developer is to prepare a Fire Management Plan for the whole of the estate to the specification and satisfaction of the Shire of Harvey, to sustainably manage the risk from bushfires to residents, property and the environment. The Fire Management Plan will include but not be limited to —

- Hazard assessment;
- Fire suppression response;
- Subdivision and lot design;
- Landscape and Vegetation management;
- House design and construction;

- Second Access to Old Coast Road;
- Water Supply;
- Siting of buildings; and
- Annual maintenance.

The Fire Management Plan will be updated as required to address the subdivision stages and maintenance.

15. Prior to the first subdivision approval, the developer is to prepare a Community Infrastructure Needs Plan for the subject site, addressing both hard infrastructure (such as built facilities and pro rata contributions) and soft infrastructure (the social fabric of the community), to the satisfaction of the Shire of Harvey, with advice from relevant agencies including the Department of Education and Training.

16. Prior to approval of the first subdivision plan for stages adjacent to the ROS, the developer is to prepare a Foreshore and ROS Management Plan for the foreshore reserve and interface between the Residential Development in that stage and the foreshore, to be approved to the specification and satisfaction of the Shire of Harvey, in accordance with advice from the Department of Environment and Conservation. The Foreshore and ROS Management Plan will include but not be limited to—

- Identification of landform and vegetation management measures required for protection of the foreshore reserve environmental values; and
- Identification of coastal node locations, coastal access locations and public amenity requirements plus associated upgrading/maintenance needs.

17. Prior to subdivision approval for a stage of subdivision, the developer is to prepare an Urban Water Management Plan (UWMP) for the relevant subdivision stage to the specification and satisfaction of the Department of Water with advice from the Shire of Harvey. The UWMP will address implementation of the strategies agreed through the LWMS and include specific descriptions of the following—

- Housing design guideline requirements needed to ensure the agreed water conservation and treatment systems are included within building designs;
- Detailed stormwater management design including Best Management Practices and treatment trains;
- Nutrient application and management requirements;
- Detailed monitoring schedule;
- Contingency measures to be implemented in the event that pollution and nutrient removal are not achieving agreed performance targets; and
- Implementation plan including roles, responsibilities, funding and maintenance arrangements.

18. Prior to the reconfiguration of the existing nine (9) holes of the Lakewood Shores golf course, the developer is to prepare a Golf Course Management Plan to the specification and satisfaction of the Shire of Harvey in accordance with advice from the Department of Water. The Golf Course Management Plan will include but not be limited to—

- Landform protection;
- Vegetation management;
- Weed control;
- Water supply requirements and water source options; and
- Nutrient and irrigation management.

19. Should any Actual or Potential Acid Sulfate Soil be identified within the subject site that have the potential to be disturbed through site works, the developer is to prepare an Acid Sulfate Soil Management Plan, prior to ground disturbing activities, to the specification and satisfaction of the Shire of Harvey with advice from the Department of Environment and Conservation.

FIGURE 1 - CONSERVATION RESERVES



ADOPTION

Adopted by Resolution of the Council of the Shire of Harvey at the Special Meeting of the Council held on 18th December, 1993.

J.L. SABOURNE
Shire President

DATED: 15 AUGUST 1996

K.J. LEECE

DATED: 15 AUGUST 1996

FINAL APPROVAL

1. Adopted by Resolution of the Council of the Shire of Harvey at the Special Meeting of the Council held on the 13th day of March, 1995, and the seal of the Municipality was pursuant to that Resolution hereunto affixed in the presence of:

J.L. SABOURNE, JP
SHIRE PRESENT

K J LEECE

This Scheme Text is to be read in conjunction with the approved maps of the Scheme described in Clause 1.4 of this Scheme and to which formal approval was given by the Hon Minister for Planning on the date shown below.

2. Recommended/submitted for final approval by the Western Australian Planning Commission.

CHAIRMAN

DATED:

MINISTER FOR PLANNING

DATED: 24 SEPTEMBER 1996

Annexure SGA13

Shire of Harvey's Local Planning Strategy

SHIRE OF HARVEY

Local Planning Strategy

GOVERNMENT OF WESTERN AUSTRALIA

Western Australian Planning Commission

Endorsed by the
Western Australian Planning Commission

22 April 2020

Disclaimer

This is a copy of the Local Planning Strategy at the date of endorsement produced from an electronic version of the Strategy held by the Department of Planning Lands & Heritage. Whilst all care has been taken to accurately portray the current Strategy provisions, no responsibility shall be taken for any omissions or errors in this documentation.

Consultation with the respective Local Government Authority should be made to view a current legal version of the Strategy.

Please advise the Department of Planning Lands & Heritage of any errors or omissions in this document.

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SHIRE OF HARVEY
A Breath of Fresh Air

Shire of Harvey
Local Planning Strategy

Part 1 – Strategic Plan

April 2020

Version Control

Date	Version	Detail
26/07/2016	July 2016	The Shire of Harvey Local Planning Strategy (Strategy) Part 1 endorsed for advertising for Council.
31/10/2016	October 2016	Referred to WAPC, including copy of Strategy Maps.
25/5/2017	May 2017	Part 2 of the Strategy sent to the WAPC.
28/11/2017	October 2017	Strategy endorsed by the WAPC (18/07/17) subject to modifications to Part 1 and 2, and Strategy Maps. Report to Council to acknowledge the changes and refer back to the WAPC. The updated version of Part 1 and 2 of the Strategy and the Strategy Maps were sent in October 2017.
5/6/2018	June 2018	Additional modifications made in accordance with Schedule of Modifications from WAPC (18/07/17). The updated version of Part 1 and 2 of the Strategy and the Strategy Maps were sent in October 2017.
18/6/2018	June 2018	18 June 2018 - DPLH modifications to conform with WAPC modification requirements
24/1/2020	January 2020	Modifications in accordance with Statutory Planning Committee Minutes of 29/10/2019 (specifically Schedule of Modifications – Attachment 12)
31/3/2020	April 2020	Final modifications as requested by DPLH (14/02/20). General review for grammatical errors and consistency.
06/04/2020	April 2020	Minor modifications as requested by DPLH (03/04/20). Final version.

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Advertising, Adoption & Endorsement

SHIRE OF HARVEY

LOCAL PLANNING STRATEGY

CERTIFICATION FOR ADVERTISING

Certified for advertising by the Western Australian Planning Commission on 18 July 2017.

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COUNCIL RECOMMENDED / SUBMITTED FOR APPROVAL

Supported for submission to the Western Australian Planning Commission for endorsement by resolution of the Shire of Harvey at the Ordinary Council Meeting held on 14 May 2019.



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SHIRE PRESIDENT

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CHIEF EXECUTIVE OFFICER

ENDORSEMENT OF LOCAL PLANNING STRATEGY

Endorsed by the Western Australian Planning Commission on 22 April2020_____

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DELEGATED UNDER S.16 OF THE
PLANNING & DEVELOPMENT ACT 2005

1. Vision and Planning Principles

The Shire of Harvey is a diverse region consisting of 42km of coastline, the urbanised locality of Australind, eight rural townsites, a variety of environmentally sensitive areas, a dedicated heavy-industrial park, and a thriving agricultural sector. This diversity creates a complex mixture of opportunities, constraints and community aspirations. The Local Planning Strategy (Strategy) is intended to set out the Shire's broad vision in respect to balancing growth, environmental responsibilities, land use management, appropriate development control, housing affordability and the health and wellbeing of our community. The Strategy will provide a foundation by which the Shire can be protected from unwarranted development proposals and provide a strategic basis for approaching and partnering with State and Federal Government agencies to achieve outcomes which benefit our community.

In support of the values and aspirations identified within the Shire's *Strategic Community Plan 2017 – 2027*, the Shire's vision for the future from a land-use perspective is to actively pursue:

- Appropriate development of the Shire while recognising community needs and the creation and maintenance of a quality lifestyle and environment for all to enjoy;

- Effective delivery of services to ensure that the Shire is a progressive and enjoyable place to live and work; and

- A sustainable balance of rural and urban lifestyle with ecologically sustainable tourism and economic development.

The following Guiding Principles that support this Strategy are:

- To provide a Strategy which provides for the sustainable use of land and water resources in a responsible manner that reflects the aspirations of the Shire and its community, accommodates future needs and creates opportunities to enhance local attributes;

- To provide a Strategy that is consistent with State and regional planning policies and schemes, strategies, structure plans and strategic development initiatives;

- To provide a Strategy that is clear, comprehensive, accessible, informative, logical, practical, transparent and is a 'leadership' document that provides strategic planning directions for the next 15 years and beyond; and

- To provide a Strategy that provides the basis for the preparation of the Shire's new Local Planning Scheme, to be referred to as Local Planning Scheme No. 2 (LPS No. 2).

2. Objectives

The Strategy has been developed with the Objectives of:

- Implementing the State Planning Strategy and the framework of State and regional policies and plans;
- Documenting, in a user-friendly way, community aspirations for the Shire and the strategies, policies and measures which will be required to achieve these aims;
- Providing a comprehensive planning context for responsible decision-making by Council on planning matters and informing the formulation of LPS No. 2;
- Assist employment and economic growth by identifying land suitable for retail, commercial, industrial and tourism uses;
- Minimising the loss of viable rural land for agriculture by identifying land suitable for development and restricting inappropriate rural lifestyle lot development;
- Emphasising the importance of tourism activities and establishing a planning framework which is flexible and conducive to tourism type development;
- Emphasising the importance of a healthy built environment through mixed-use planning and the need to create a variety of destinations, transport methods and urban design initiatives to facilitate a sense of community, wellbeing and improved interaction between residents;
- Ensuring planning appropriately takes into account potential hazards such as flood, fire, erosion and inundation;
- Promoting the sustainable use of water resources by assessing future water needs and initiating investigations and planning to secure a balanced water future;
- Recognising and encouraging conservation of the Shire's cultural heritage wherever possible;
- Recognising places of environmental significance for future consideration by the State as conservation areas / regional open space; and
- Protecting the significant areas of remnant native vegetation, conservation category wetlands and local / regional ecological linkages.

These Objectives will be achieved by providing recommendations for a review of the Shire's District Planning Scheme No. 1 (DPS No. 1) and the preparation of LPS No. 2. Achievement will be further demonstrated through the Shire's ongoing commitment to current and future Community projects and infrastructure upgrading through the affiliated plans which support this Strategy.

2.1 Themes

Aligned with the Vision and Objectives, the following core Themes have been adapted to guide the development of the Strategy and its subsequent implementation:

- Sustained and Diversified Economic Development – Ensuring and developing a broad economic base, new tourism and industrial opportunities and strengthening existing rural, commercial and other economic activities.

- Balanced Growth – Promote and allow for urban growth and the development of affordable housing whilst ensuring the protection of key environmental assets and priority agricultural land.

- Building & Maintaining Infrastructure Capacity – Strategic and urban transport, utilities and communications infrastructure are provided in a timely and efficient manner to cater for a growing resident population and increasing economic activity.

- Heritage and Environment Conservation – Wherever possible identify and encourage the protection of areas that have cultural, historical and environmental significance.

- Strengthening Local Community Development – Providing services and facilities for a range of diverse community needs and interests that reflect and enhance the unique character, heritage and identity of the area.

2.2 Scope

The Shire's Strategy has been prepared with consideration for a 15-year timeframe, which is consistent with other contemporary strategic planning documents, in order to address short, medium and long term strategic goals and development expectations. Strategy Maps for future urban growth and expansion of towns and residential areas within the Shire have been developed with consideration of the Strategy's timeframe. In addition, the Shire has identified possible areas for urban expansion and development that would be worthy for investigation.

The short, medium and long term timeframes have been defined as follows:

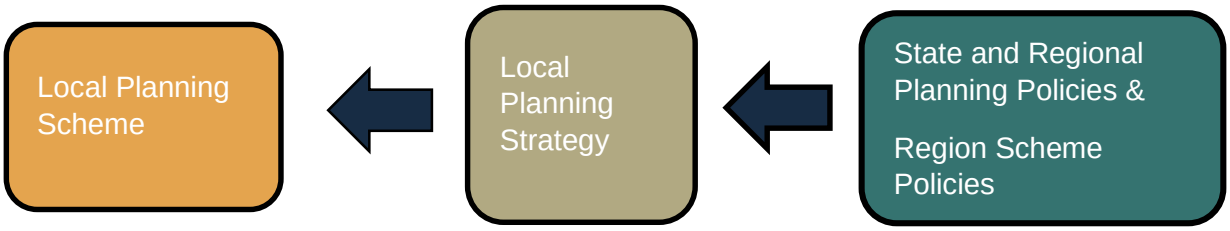
- Short term: 0 to 5 years, ready to go - most of the preparation for the site to be developed (land use, zoning and site investigations) has been addressed and will be subject to further structure planning, subdivision or local development plan approvals. Development of these sites should occur within a 0 to 5-year timeframe.

- Medium term: 5 to 10 years, land to be made available – approvals such as Local Scheme Amendments and site investigations will be required to ensure the land is ready for development, however the overall process should be achieved within a development timeframe of 5 to 10 years. Market triggers will determine whether these areas are developed within or beyond the estimated timeframe.

- Long term: 10 to 15 years, urban/industrial land investigations necessary – further environmental, social and economic investigations are required. Complex approvals such as Local and Region Scheme Amendments will need to be undertaken in line with those investigations, if deemed appropriate. Any identified long term site must align with the Greater Bunbury Strategy 2013 (GBS) and Greater Bunbury Region Scheme (GBRS).

2.3 Relationship with Scheme

The Local Planning Strategy is a broad guiding strategic document that will inform the preparation of the Shire's new Local Planning Scheme and subsequent amendments to that Scheme. It is a land use and infrastructure guidance document not a proposed zoning document. The following diagram represents the role of the Local Planning Strategy in the planning framework:



The Strategy does not supersede:

- State Planning Policies (SPP). To the extent of any inconsistency the SPPs prevail;
- the GBRS; and
- the statutory zoning or provisions of the Scheme, rather it sets the broad planning direction and informs amendments to the Scheme.

2.4 Structure of the Strategy

The Strategy is set out into the following sections:

Part 1 – Strategy

This sets out the major characteristics and issues relevant to the future planning and development of the Shire and is set out as follows:

1. Vision and Planning Principles
2. Objectives
3. Strategic Plan which includes the Strategic and Implementation Actions and Precinct areas
4. Implementation, Monitoring and Review
5. Maps

Part 2 – Background Information and Analysis

This sets out the major characteristics of the area relevant to the future planning and development of the Shire in context of the State, Regional and Local Planning framework. Part 2 is set out as follows:

1. Introduction
2. State and Regional Planning Context
3. Local Planning Context
4. Local Profile
5. Constraints.

3. Strategic Plan

3.1 Residential

Generally refers to land within townsites and urban areas designed specifically for residential purposes with lot sizes and development control reflective of the provisions contained in the State Planning Policies for residential and neighbourhood design. A Settlement Hierarchy Table with key settlement planning parameters for each town has been provided in Part 2 of the Local Planning Strategy (Pg. 70 – 71).

In accordance with the GBS, the majority of future urban growth for the Shire will be located within existing residential zoned areas, specifically the completion of the Treendale and Kingston localities and the yet to be developed locality of South Treendale.

Within the Shire's coastal and rural settlements, significant short – medium term growth is expected in Binningup whilst steady growth is expected in Harvey, Brunswick and Roelands. More limited growth in demand is expected for the townsites of Myalup, Cookernup and Yarloop. The Strategy addresses how these expectations will be managed in the context of broader settlement planning provided for in the GBS, the GBRS and relevant State Planning Policies and guidelines.

3.1.1 Long-Term Urban Investigation Area (East of Treendale) (Map 1)

The area on the eastern side of the Forrest Highway located between Raymond Road and Clifton Road (portions of Lots 100, 101 and 131 Treendale Road) is identified as an "Urban Investigation Area" under the GBS. In accordance with the GBS, development of this area is to be staged so that it does not impact the development planned to occur within the urban expansion area of 'Wanju'.

Following consideration of the extent of the urban investigation area under this Local Planning Strategy, and recognizing the severance effect of the planned Bunbury Outer Ring Road (BORR) within this locality, the land to the west of the BORR is identified as a "Long-Term Urban Investigation Area" and land to the east of the BORR will be retained as rural land use. The suitability of this area for any change of use will be investigated as part of the Bunbury Geographe Sub-regional Strategy.

Strategy	Implementation
Refer to Residential Precinct LUIA (Table 1, Pg. 14)	
Retain and protect land to the west of the BORR for future major urban investigation expansion area.	Identify this land in LPS No. 2 as being within a "Special Control Area" as a "Development Investigation Area" noting that the land is still zoned Rural under the GBRS. Provisions to be included in LPS No. 2 to restrict the timing of development in accordance with the GBS.
Land to the east of the BORR will be retained as rural land use.	The suitability of this area for any change of use will be investigated as part of the Bunbury Geographe Sub-regional Strategy.

3.1.2 Key Localities with Short – Medium Term Residential Development Potential

3.1.2.1 Infill Development (Australind and Harvey) (Maps 2a, 2b and 5a)

The majority of areas zoned Residential under the Shire's DPS No. 1 have a density code of R15/30/50. This split coding allows:

- single houses to be developed at the R15 density code;
- grouped dwellings and lots to be subdivided at the R30 density code; and
- multiple dwellings to be developed at the R50 density code.

In accordance with DPS No. 1, to develop at the R30 density code the site is required to have a minimum lot size of 900m^2 and be connected to sewer. An initial survey of the Australind and Harvey area has identified approximately 200 existing Residential R15/30/50 lots that are larger than 900m^2 resulting in a potential to develop an addition 790 dwellings under the current Scheme provisions.

An additional 540 dwellings could be developed however if the 900m^2 restriction was lifted reflecting the subdivision standards of the R-Codes. The Shire has determined that the minimum 900m^2 restriction is to be removed and infill targets should be met through Liveable Neighbourhoods implementation and planning approaches aimed at achieving a variety of housing types and increased density in suitable areas rather than applying a blanket R-Code.

Strategy	Implementation
Support appropriate infill development within the existing residential areas of Australind and Harvey.	Aim to ensure housing density is at least maintained or improved beyond the densities provided for by the current Scheme. Infill targets should be met through Liveable Neighbourhoods implementation and planning approaches aimed at achieving a variety of housing types and increased density in suitable areas rather than applying a blanket R20 code. Consideration of retaining 'habitat supporting' vegetation should form part of the sustainable planning outcome for targeted density. Design/Policy consideration should be given to ensuring streetscape values and elements of the existing neighbourhood character and amenity is retained when new development occurs.

3.1.2.2 Australind Area (Maps 2a and 2b)

Through the ongoing development of areas such as Treendale, Kingston and South Treendale and the projected infill development within the established areas of Australind, it is estimated that Australind will exceed a population of 20,000 over the next 15 years. The population will be serviced by existing commercial centres in Australind and Treendale, recreational facilities at the Leschenault Recreation Park (LRP) and a number of public and private schools. Investigation should be undertaken for high density mixed-use development, to be guided by appropriate design guidelines, within the Australind and Treendale town centres. Improved

connectivity within and between the localities of Australind, Treendale, Kingston and the neighbouring locality of Eaton (Shire of Dardanup) will remain a focus of the Shire to mark the Australind area as a destination of choice and one of vibrancy within the region.

In addition, this Strategy seeks to consolidate areas currently zoned "Residential Development," and have an approved Structure Plan, to be rezoned as per the approved Structure Plans (such as Kingston, Treendale and South Treendale).

Strategy	Implementation
Refer to Residential Precincts RD1, RD2, RD3, RD4, RD5, RD6 & RD7 (Tables 2 – 8, Pg. 15 – 21) Provide for Infill Areas within Australind	
Investigate potential for higher densities and mixed-use development in accordance with Liveable Neighbourhoods, the Activity Centres Policy and "Healthy By Design" principles, particularly in established areas of Australind around the Town Centre and the need to connect it with the Treendale District Centre and Kingston.	Include increased minimum densities and mixed-use zonings around centres of Australind and Treendale and South Treendale in LPS No. 2. Minimum densities should be enforced to ensure greater efficiency of land and infrastructure and to promote increased walkability and housing choice. Appropriate design guidelines to be prepared to guide infill and mixed used development ranging from R40 to R60.
Update the Scheme to reflect the zones provided for in structure plan areas.	Rezone the "Residential Development" zone as per the allocated zones and density codes of the approved Structure Plans for Kingston, Treendale and South Treendale.

3.1.2.3 Binningup (Map 3)

Binningup is expected to grow to a population of over 3,000 in the next 15 years, mainly as a result of the approved Structure Plan for Lot 9005 in South Binningup (indicative lot yield of approximately 1,000 lots). The pending foreshore and golf course management plans will ensure all residents will be able to sustainably enjoy the coastal and recreational attributes of Binningup. Any subdivision of the land can only proceed subject to bushfire hazard assessments being completed consistent with the requirements of SPP 3.7 and the proponent providing a gazetted and constructed second roadway. Intensifying development will not be supported.

The second public access road will ensure an improved level of convenience and safety for residents within Binningup and assist to alleviate current traffic concerns along Binningup Road.

A portion of Lot 76 Binningup Road is zoned for residential development purposes and is required under the current DPS No. 1 to submit a Structure Plan (Refer to Precinct RD9). As part of the assessment process, the Shire will be ensuring the structure plan, subdivision layout and housing design will take into consideration the unique character of the area, topographical and environmental constraints.

Strategy	Implementation
Refer to Residential Precincts RD8 & RD9 (Tables 9 & 10, Pg. 22 – 23)	
Townsite expansion to be consistent with the GBS and GBRS	Development of Lot 9005 to proceed in accordance with an approved Local Structure Plan.
	Any residential development proposals for portion of Lot 76 Binningup Road should include a Structure Plan which responds to the characteristics of the site and relevant statutory requirements.

3.1.2.4 Brunswick (Map 4)

Brunswick is expected to experience stable growth into the future and is capable of limited infill development. The townsite has been identified as a "Medium Term Development Area" under the GBS and this Strategy identifies Lot 57 Heppingstone Road (corner Rose Road) as the most appropriate land for further urban growth in Brunswick with a density coding of "R15/30/50" consistent with adjacent residential land to the north. An amendment to the GBRS to zone the land "Urban Deferred" will be required before the land can be rezoned under LPS No. 2 and a Local Structure Plan prepared.

Lot 300 George Avenue represents a large parcel of residential zoned land, however, a portion of the site is currently used for industrial purposes and contains effluent disposal ponds associated with nearby industrial activities. Consideration will need to be given to the long-term use of the site at the Scheme review stage, and whether it should be used for residential or industrial purposes.

Strategy	Implementation
Refer to Residential Precincts RD10 (Table 11, Pg. 24)	
Townsite expansion in accordance with this Strategy.	Consideration to be given to Lot 57 Heppingstone Road being rezoned to "Urban Deferred" under the GBRS and appropriate residential densities in LPS No. 2 requiring Local Structure Planning and a Townsite Strategy prior to development.

3.1.2.5 Brunswick, Clifton Road (North) and Wellesley Road (Map 4)

Lots 15, 16, 100, 102, 103, 150, 153 and 500 Clifton Road, and Lots 100 and 101 Wellesley Road are located between Brunswick River to the north and Clifton Road to the South. Lots 103, 153 and 150 are currently split zoned "Special Residential" and "Special Rural", whilst Lots 15, 16, 100, 102 and 103 Clifton Road, and Lots 100 and 101 Wellesley Road are zoned "Special Residential" and Lot 500 Clifton Road is zoned "Public Utilities". These lots provide an opportunity for urban expansion. A GBRS amendment and Structure Planning will need to be undertaken to ensure that as an 'entry' into Brunswick the style and density of the precinct, the existing Residential fabric of the Brunswick Junction townsite and other constraints such as neighbouring agricultural activities and proximity to environmentally sensitive areas (Brunswick River) are considered.

It would be recommended that portions of Lots 15, 16, 100, 100, 101, 102, 103, 150 and 153 that are currently zoned Special Rural (Schedule 3 of the Scheme), should be investigated for future appropriate land use as part of the Brunswick Townsite Strategy.

Strategy	Implementation
Refer to Residential Precinct RD11 (Table 12, Pg. 25)	
Rezone Lots 15, 16, 100 and 102 Clifton Road from "Special Residential" to "Urban Development", Lots 103, 153 and 150 Clifton Road from "Special Rural" and "Special Residential" to "Urban Development", Lot 500 Clifton Road from "Public Utilities" to "Urban Development" and Lots 100 and 101 Wellesley Road from "Special Residential" to "Urban Development"	Consider rezoning this area as part of preparation of LPS No. 2. Local structure planning required.

3.1.2.6 Cookernup (Map 9)

The Cookernup townsite contains a number of large "Residential" zoned properties with a density coding of "R15/30/50" allowing for further subdivision and to this effect, additional residential zoned properties are not required. Increased development of lots is restricted by a lack of reticulated sewer, however a change in the density coding is not considered necessary.

Strategy	Implementation
No further expansion is envisioned for the townsite.	N/A

3.1.2.7 Harvey (Map 5a)

Amendments to the GBRS (No. 0019/14) and the DPS No. 1 (No. 104) rezoned a number of properties in 2014 as part of the Harvey Townsite Expansion Strategy. The Harvey Townsite Expansion Strategy area on the fringes of the Harvey townsite are identified for future urban development which are expected to cater for the short – medium growth demands in Harvey. This area includes the following:

- Lots 2-4, 14, 15, 102, 200, 201 and 233 King Street (RD12);
- Lots 3 and 250 Calder Grove and Lot 4 Roy Street (RD13);
- Lots 30, 100 and 101 Kidson Street and Lots 9, 69, 70, 74 and 75 Hackett Road (RD14);
- Lots 23 and 24 Fryer Road and Lot 12 Anthony Street (RD15);
- Lots generally bounded by Third Street, Uduc Road, Fourth Street, Sir James Avenue and Roy Street (RD16); and
- Korijekup Heights (Lots 109, 116, 119 and 108 Sittella Drive, Lots 106 and 107 Rosella Loop, Lot 120 Butcherbird Road and portion of Lot 500 Wallam Road (RD 17).

Local Structure Planning will be required prior to any subdivision/development of the identified land. The Shire will be requiring Structure Planning which achieves consolidated and integrated road and pedestrian/cycle networks, passive and active public open space, drainage and other infrastructure. Due to the size and configuration of existing land parcels coordinated Structure Planning with all landowners is preferred. In addition, this Strategy

seeks to consolidate areas currently zoned “Residential Development,” and have an approved Structure Plan, to be rezoned as per the approved Structure Plans.

In regard to the RD14 Residential Investigation Area, Lots 9, 100 and part of 101 are included in the existing sewer planning and can connect to the existing gravity sewer network. However, Lots 74, 75 and 69 cannot be serviced by the existing gravity sewer network and would require a new pump station or at least 2 metres of imported fill. This area also extends into the buffer of the WWTP and sensitive land uses such as residential should be excluded from this area.

Strategy	Implementation
Refer to Residential Precincts RD12, RD13, RD14, RD15, RD16 & RD17. (Tables 13 – 18, Pg. 26 – 31)	
Townsite expansion in accordance with existing “Residential”/“Residential Development” zoned properties.	All “Residential Development” zoned properties to be Structure Planned and zoned to “Urban Development”. Encourage consolidation and diversity of housing types in LPS No. 2. Land to be appropriately zoned in the GBRS with any “Urban Deferred” land to require Local Structure Planning prior to lifting of the “Urban Deferred” zoning. Prepare a Townsite Strategy for Harvey townsite. Rezone the “Residential” zone as per the allocated zones and density codes of the approved Structure Plans.

3.1.2.8 Myalup (Map 6)

Significantly constrained by the coast, Lake Preston and remnant bushland, it is considered that Myalup has little potential for future residential growth given the extreme bushfire risk, critically endangered habitat vegetation, topographical challenges, coastal setback and emergency access limitations of the locality. It is therefore recommended that residential development be generally restricted to infill development of existing lots.

Infill and possible expansion includes Lot 100 which contains Ottrey Park (approximately 13,500m²) owned by the Shire which is zoned “Residential” and “General Farming”. Emphasis is to be placed on the provision of adequate pedestrian links between the coastal car park and Ottrey Park.

Strategy	Implementation
Retain the current Scheme zoning over the existing townsite	Predominantly infill development with possible expansion to include Lot 100 owned by the Shire and is zoned “Residential” and “General Farming”.

3.1.2.9 Roelands (Map 7)

Roelands has experienced significant "Special Residential" growth east of the main townsite and is expected to continue to grow with the expansion of the existing school (Hope Christian College). Additional "Special Residential" lots on the eastern section of Waterloo Road are constrained by the existence of a granite quarry owned by the State Government, however Roelands is well situated for future growth given its proximity to the centres of Australind, Bunbury and Collie.

Under DPS. No. 1, "Residential" zoned land is available on portions of Lots 36 and 201 Gardiner Street. Lot 34 Government Road/Colton Street is also recommended for residential development as it is immediately adjacent to existing residential lots and the new Hope Christian College site on Lot 42 Government Road, Roelands.

The density of development of Roelands is restricted by a lack of reticulated sewer and the high costs associated with providing a reticulated water supply to land above 65m AHD contour. Local Structure Planning will need to give consideration to adequate district drainage, the provision of a second access point to Coalfields Highway, improving pedestrian linkages to the School site and enhancing a sense of place for all residents within Roelands.

Strategy	Implementation
Refer to Residential Precincts RD18. (Table 19, Pg. 32)	
Townsite expansion in accordance with this Strategy.	Lot 34 Government Road (corner Colton Street) to be zoned "Urban Development" in LPS No. 2 requiring Local Structure Planning prior to development. Identify most appropriate location for future access to Coalfields Highway.

3.1.2.10 Wokalup (Map 5b)

Land zoned "Residential" in Wokalup is confined to a triangular area bound by South Western Highway, Teesdale Road and Hocart Road. The locality contains a number of large lots, many of which have dual road frontage with the potential to be further subdivided. As short – medium term demand for the Wokalup locality is expected to remain modest and additional crossovers to South Western Highway may raise concern from Main Roads WA, no further expansion of "Residential" zoned properties is proposed in this Strategy.

Strategy	Implementation
No further expansion is envisioned for the townsite	N/A

3.1.2.11 Yarloop (Map 8)

In response to the Yarloop/Harvey/Waroona January 2016 bushfires that had a devastating effect on the Yarloop townsite, the future development scenarios of Yarloop are to be guided by the "Town Development Plan".

Strategy	Implementation
Consideration be given to incorporating the Yarloop "Town Development Plan" within the Strategy.	Once approved by the WAPC, the Yarloop "Town Development Plan' is to be implemented through an amendment to this Strategy.
Appropriate infill development only, taking into account Yarloop "Town Development Plan" and lack of reticulated sewerage.	Regard is to be given to the outcomes of the "Town Development Plan" (once approved by the WAPC) and available servicing when preparing the new scheme. Some recommendations may require rezoning in LPS No. 2.

3.1.2.12 Lot 522 Ditchingham Place, Australind (Map 2a)

Lot 522 Ditchingham Place is owned in freehold by the Water Corporation, and contained the former Australind Wastewater Treatment Plant from 1982 until 2002. The Water Corporation subsequently conducted extensive decommissioning and groundwater monitoring, and in May 2016, the site was classified "Decontaminated" by DWER and declared fit for unrestricted use. The site has been declared surplus to Water Corporation operational requirements, and will most likely be on-sold for development by a future owner.

Given that the land is zoned "Urban Deferred" under the GBRS and reserved for "Public Utilities" under DPS No. 1, Lot 522 will require rezoning and structure planning in order to prepare the land for sale. The Water Corporation has been liaising with the Shire regarding a prospective Scheme Amendment for Lot 522.

A draft Structure Plan has already been provided to the Shire and has received preliminary support. Key features include the retention of approximately 2.1 ha of banksia woodland, approximately 180-200 low to medium density residential lots and a mixed use precinct located adjacent to the Piggott Drive/Ditchingham Place intersection.

In order that the proposed Scheme Amendment remains consistent with the Shire's strategic planning objectives, Lot 522 is identified within this Strategy for future urban development.

Strategy	Implementation
Refer to Residential Precinct RD19 (Table 20, Pg. 33)	
Rezone Lot 522 Ditchingham Place from "Public Purpose" to "Urban Development".	Rezone Lot 522 Ditchingham Place to "Urban Development". Local structure planning required.

Residential Precincts

Long-term Urban Investigation Area

LUIA – Table 1: East of Treendale Precinct Future Long Term Urban Investigation Area

Planning Precinct:	Strategy Implementation:
East of Treendale Precinct Future Long Term Urban Investigation Area (LUIA) **Location:** The area on the eastern side of the Forrest Highway located to the north of Raymond Road and to the west of the BORR alignment (portions of Lots 100, 101 and 131 Treendale Road) **Land Area:** Approx. 200 ha **Developable Area:** To be determined **Plan/Map Schedule:** Strategy Plan Map 1 Bushfire mapping Figures 19, 20 & 21 – Note – the bushfire mapping was undertaken prior to the BORR alignment finalisation. **Strategy Reference:** Clause 3.1.1	**Proposed Land Use**: Long-Term Urban (investigation area) – residential, commercial and other. **Current GBRS Zoning:** "Rural". **Current TPS Zoning:** "General Farming". **Required GBRS Zoning Change:** Yes to "Urban Deferred" **Required TPS Zoning Change**: No zoning change, but provisions or a special control area to be identified in LPS No. 2 to guide and protect future land use. **Lot size/Density**: To be determined upon further investigation, mix residential densities, appropriate commercial and recreational facilities and supporting services. **Structure Planning required**: Yes to be endorsed by WAPC prior to the Urban Deferment being lifted and prior to subdivision/development. **Planning Matters to be Addressed:** • Environmental considerations (Environmental Review, Regional Open Space); • General site constraints (e.g. Soils); • Servicing; • Amenity issues (Proximity to Forrest Highway and BORR – Sound buffers); • Road access and connectivity between existing Treendale area (west of site) and subject site; • The Bushfire Hazard Mapping report (AE2, Figures 19, 20 & 21) identified areas of moderate and extreme bushfire hazards Water supply for open space; • Hydrogeological settings/drainage; • Roles and responsibilities for arterial drainage system; • Identification of foreshore areas for 'living streams'; • State Planning Policy 5.4 – Road and Rail Noise; • ATCO Gas pipeline setbacks/buffers; • Main Roads/Freeway/Fast train corridor alignments (BORR); and • Development to be staged so that it is not commenced before significant development has occurred within the urban expansion area 'Wanju' (+2021). **Envisaged Development Controls:** • To be determined at rezoning/structure planning stage and to be guided by the Bunbury Geographe Sub-regional Strategy; • Identify this land in LPS No. 2 as a "Special Control Area" to protect the future consideration of the long term prospects for urban settlement; and • Future BAL Assessment or clearing may be required. **General Comments:** • Feasibility studies.

Short to Mid Term

RD1 – Table 2: Australind – Paris Road

Planning Precinct:	Strategy Implementation:
Australind Paris Road (RD1) **Location:** Lots 3 and 4 Paris Road, Australind **Land Area:** 1.61 ha **Developable Area:** 1.29 ha **Estimated Lot Yield:** 36 lots at 330m^2 average **Plan/Map Schedule:** Strategy Plan Map 2a and 2b **Strategy Reference:** Clause 3.1.2.2	**Proposed Land Use**: Residential infill. **Current GBRS Zoning:** "Urban". **Current TPS Zoning**: "Residential R15/30/50". **Required GBRS Zoning Change:** No. **Required TPS Zoning Change**: No. **Lot size/Density**: R30. **Structure Planning required:** No. **Planning Matters to be Addressed:** • Access from Break O'Day Drive; • Dwellings to address Paris Road; • General servicing (water, electricity, roads, telecommunications, etc.); and • Provision for Public Open Space should the site be subdivided. **Envisaged Development Controls:** • R-Codes; • Scheme provisions; and • Liveable Neighbourhoods.

RD2 – Table 3: Australind – Kingston Estate Stage 10C, D and E

Planning Precinct:	Strategy Implementation:
Australind - Kingston Estate Stage 10C, D and E (RD2) **Location:** Lot 9023 Waterford Way, Australind **Land Area:** 9 ha **Developable Area:** N/A **Estimated Lot Yield:** 158 lots approved (modified plan) **Plan/Map Schedule:** Strategy Plan Map 2a **Strategy Reference:** Clause 3.1.2.2	**Proposed Land Use**: Residential. **Current GBRS Zoning:** "Urban". **Current TPS Zoning**: "Residential Development". **Required GBRS Zoning Change:** No. **Required TPS Zoning Change**: Yes – densities and zones to reflect Kingston Estate Outline Development Plan. **Lot size/Density**: R20 (670m^2 average). **Structure Planning required:** No. **Planning Matters to be Addressed:** • Approved for subdivision (WAPC Ref: 148219) issued in September 2013 – subject to conditions (Bushfire Management Plan, Mosquito Management Plan); and • General servicing (water, electricity, roads, telecommunications, etc.). **Envisaged Development Controls:** • Kingston Estate Outline Development Plan (R20); • Scheme provisions; • R-Codes; and • Bushfire Management Plan and BAL Assessment. **General Comments:** • Plan was modified in October 2013 and approved.

RD3 – Table 4: Australind – Kingston Estate Stage 7B

Planning Precinct:	Strategy Implementation:
Australind - Kingston Estate Stage 7B (RD3) **Location:** Lot 9012 Braidwood Drive, Australind **Land Area:** 18.43ha **Developable Area:** N/A **Estimated Lot Yield:** 99 lots **Plan/Map Schedule:** Strategy Plan Map 2a **Strategy Reference:** Clause 3.1.2.2	**Proposed Land Use**: Residential. **Current GBRS Zoning:** "Urban". **Current TPS Zoning**: "Residential Development". **Required GBRS Zoning Change:** No. **Required TPS Zoning Change**: Yes – densities and zones to reflect Kingston Estate Outline Development Plan. **Lot size/Density**: R20 (508m^2 – 950m^2). **Structure Planning required:** No. **Planning Matters to be Addressed:** • Subdivision approval issued (WAPC Ref: 150924) in April 2014 lodged for the area. Conditions included: - Mosquito Management Plan; and - Foreshore Management Plan. • General servicing (water, electricity, roads, telecommunications, etc.); • Since the subdivision was approved, bushfire prone vegetation has been identified on the periphery of the site by DFES. A BAL Assessment will need to be conducted; and • Foreshore Reserve to be created and hazard separation requirements to be provided outside of the Foreshore Reserve. **Envisaged Development Controls:** • Foreshore Management Plan; • Kingston Estate Outline Development Plan (R20); • Scheme provisions; • R-Codes; and • Bushfire Management Plan and BAL Assessment. **General Comments:** • A Bushfire Management Plan was not requested at the time of subdivision approval.

RD4 – Table 5: Australind – Kingston Estate Retirement Village

Planning Precinct:	Strategy Implementation:
Kingston Estate Retirement Village (RD4) **Location:** Lot 9000 Kingston Drive, Australind **Land Area:** 8.34 ha **Developable Area:** 6.13 ha **Estimated Lot Yield:** 91 aged care lots at 500m^2 average **Plan/Map Schedule:** Strategy Plan Map 2a **Strategy Reference:** Clause 3.1.2.2	**Proposed Land Use**: Residential. **Current GBRS Zoning:** "Urban". **Current TPS Zoning**: "Residential Development". **Required GBRS Zoning Change:** No. **Required TPS Zoning Change**: Yes – densities and zones to reflect Kingston Estate Outline Development Plan. **Lot size/Density**: Aged Care housing. **Structure Planning required:** No. **Planning Matters to be Addressed:** • Previous subdivision approval (WAPC Ref 147517) issued May 2013 subject to conditions including: - No vehicle access onto Leisure Drive; - Noise mitigation notification (proximity to Forrest Highway); and - General servicing (water, electricity, roads, telecommunications, etc.). • Kingston Estate Outline Development Plan identifies a 2000m^2 Special Purpose Site and a 4000m^2 Community Purpose Site; and • Communal facilities will need to be provided. **Envisaged Development Controls:** • Kingston Estate Outline Development Plan (R20); • R-Codes; • Scheme provisions.

RD5 – Table 6: Australind – Kingston Estate – Leisure Drive

Planning Precinct:	Strategy Implementation:
Kingston Estate – Leisure Drive (RD5) **Location:** Lot 101 Leisure Drive, Australind **Land Area:** 8.97 ha **Developable Area:** N/A **Estimated Lot Yield:** 74 lots created **Plan/Map Schedule:** Strategy Plan Map 2a **Strategy Reference:** Clause 3.1.2.2	**Proposed Land Use**: Residential. **Current GBRS Zoning:** "Urban". **Current TPS Zoning**: "Residential Development". **Required GBRS Zoning Change:** No. **Required TPS Zoning Change**: Yes – densities and zones to reflect Kingston Estate Outline Development Plan. **Lot size/Density**: R20, average lots size 733m^2. **Structure Planning required:** No. **Planning Matters to be Addressed:** • Subdivision approval granted WAPC (ref 150410) in October 2014 subject to conditions (Bushfire Management Plan, Public Open Space and urban water management); • No lots having direct access to Kingston Drive; and • General servicing (water, electricity, sewer, roads, etc.). **Envisaged Development Controls:** • Kingston Estate Outline Development Plan (R20); • Local Development Plan; • R-Codes; • Scheme provisions; and • Bushfire Management Plan and BAL Assessment.

RD6 – Table 7: Australind – Kingston Estate – Paris Road

Planning Precinct:	Strategy Implementation:
Kingston Estate – Paris Road (RD6) **Location:** Lots 1, 5813 and 5883 Paris Road, Australind **Land Area:** 5.76ha **Developable Area:** N/A **Estimated Lot Yield:** 63 lots **Plan/Map Schedule:** Strategy Plan Map 2a **Strategy Reference:** Clause 3.1.2.2	**Proposed Land Use**: Residential. **Current GBRS Zoning:** "Urban". **Current TPS Zoning**: "Residential Development". **Required GBRS Zoning Change:** No. **Required TPS Zoning Change**: Yes – densities and zones to reflect the approved Local Structure Plan, the Kingston Estate Outline Development Plan – Extension Plan. **Lot size/Density**: Low (R12.5) to medium (R30 and R40). **Structure Planning required:** No. **Planning Matters to be Addressed:** • Subdivision application to address the following as per the approved Structure Plan (approved by the Shire in September 2014): - Landscape buffers from Forrest Highway; - Uniform fencing; - Provision for Public Open Space (0.45ha); and - General servicing (water, electricity, sewer, roads, etc.). • State Planning Policy 5.4 – Road and Rail Noise; and • Since the Structure Plan was approved, bushfire prone vegetation has been identified on the periphery of the site by DFES. A Bushfire Hazard Mapping report and Management Plan will be required as part of the subdivision application. **Envisaged Development Controls:** • Kingston Estate Outline Development Plan; • Local Development Plan (referring to section o) of Structure Plan); • R-Codes; • Scheme provisions; and • Bushfire Management Plan and BAL Assessment.

RD7 – Table 8: Australind – Treendale South

Planning Precinct:	Strategy Implementation:
Australind - Treendale South (RD7) **Location:** Lot 9200 Forrest Highway, Australind **Land Area:** 79.3ha **Developable Area:** 50.97ha **Estimated Lot Yield:** 904 lots **Plan/Map Schedule:** Strategy Plan Map 2a **Strategy Reference:** Clause 3.1.2.2	**Proposed Land Use**: Residential. **Current GBRS Zoning:** "Urban". **Current TPS Zoning**: "Residential Development". **Required GBRS Zoning Change:** No. **Required TPS Zoning Change**: Yes – densities and zone to reflect Treendale South Local Structure Plan. **Lot size/Density**: Mixed densities (R20, R30 and R40) ranging from 270m^2 to 7000m^2. **Structure Planning required:** No. **Planning Matters to be Addressed:** • Approved for subdivision (WAPC Ref: 150466) issued in September 2014 subject to following conditions: - Mosquito Management Plan; - Foreshore Management Plan; - Landscaping buffer plans; - Noise mitigation from Forrest Highway; - Public Open Space; and - General servicing (water, electricity, sewer, roads, etc.); • Since the subdivision was approved, bushfire prone vegetation has been identified on the periphery of the site by DFES. A BAL Assessment will need conducted for affected individual sites; • Joint Town Planning Scheme No. 1 – for the construction of the Treendale to Millbridge Bridge and other infrastructure; • Foreshore Reserve Hazard Separation Zone to be identified, where required; and • Water supply for Public Open Space. **Envisaged Development Controls:** • Scheme provisions; • Treendale South Structure Plan; • R-Codes; and • Bushfire Management Plans and BAL Assessments.

RD8 – Table 9: Binningup Residential Development Area – Lakes Parade

Planning Precinct:	Strategy Implementation:
Binningup Residential Development Area – Lakes Parade (RD8) **Location:** Lot 9005 Lakes Parade, Binningup **Land Area:** 220ha **Developable Area:** 200ha **Estimated Lot Yield:** 1041 (according to the approved Structure Plan) 3,387 lots at R30 density (330m^2) **Plan/Map Schedule:** Strategy Plan Map 3 Bushfire mapping Figures 14, 17 & 18 **Strategy Reference:** Clause 3.1.2.3	**Proposed Land Use:** Residential. **Current GBRS Zoning/Reservation**: "Part "Urban", Part "Regional Open Space". **Current TPS Zoning**: Part "Residential Development", Part "General Farming". **Required GBRS Zoning Change**: No. **Required TPS Zoning Change**: Yes. "Residential Development" to "Urban Development". **Lot size/Density**: Low to medium mixed residential densities as per approved structure plan. **Structure Planning required:** Has been approved (18 December 2013). **Planning Matters to be Addressed:** • Environmental considerations (proximity to the coast); • General site constraints (e.g. Soils); • Bushfire Hazard Mapping report 2015 (BU2, Figures 14, 17 & 18) identified the following: - Extreme to moderate vegetation located within the area; - Single district access; and - BAL-29 vegetation clearing requirements. • The pending Foreshore and Golf Course Management Plans will ensure residents will enjoy the coastal and recreational attributes of Binningup; • The second access way via Springhill Road to alleviate current traffic along Binningup Road; • Ceding of land for Regional Open Space; • Water supply for Public Open Space; and • Reticulated sewerage. **Envisaged Development Controls:** • Scheme provisions; • Local Development Plans to take into consideration unique character of the area; • R-Codes; and • Bushfire Management Plans and BAL Assessments.

RD9 – Table 10: Binningup Residential Development Area – Binningup Road

Planning Precinct:	Strategy Implementation:
Binningup Residential Development Area – Binningup Road (RD9) **Location:** Lot 76 Binningup Road, Binningup **Land Area:** Total 35.17ha Zoned land 19.13ha **Developable Area:** 9.44ha **Estimated Lot Yield:** 114 lots at R15 **Plan/Map Schedule:** Strategy Plan Map 3 Bushfire mapping Figures 14, 15 & 16 **Strategy Reference:** Clause 3.1.2.3	**Proposed Land Use:** Residential. **Current GBRS Zoning**: Part "Rural", Part "Urban". **Current TPS Zoning**: Part "General Farming", Part "Residential R15/30/50". **Required GBRS Zoning Change:** No. **Required TPS Zoning Change:** Yes. "Residential Development" to "Urban Development". **Lot size/Density**: Low residential densities to reflect existing area. Larger lots maybe required to be sympathetic to surrounding area. **Structure Planning required**: Yes to be endorsed by WAPC prior to subdivision/development. **Planning Matters to be Addressed:** • Environmental considerations (Ecological Linkages); • Site constraints (Topographical constraints); • Water supply for Public Open Space; • Bushfire Hazard Mapping report 2015 (BU1 Figures 14, 15 & 16) identified the following: - Extreme to moderate vegetation located within the area - Second access to the south; - Environmental areas; and - BAL-29 vegetation clearing requirements. • Any future structure planning over the area should address the following issues: - The Structure Plan must demonstrate that the function of the site as an Ecological Linkage is maintained; - It can be demonstrated that approval will not result in an unacceptable environmental impact; and - Housing and subdivision design which achieves: a. A road and lot layout in keeping with the existing landscape and subdivision character of the Binningup townsite within the immediate vicinity of the site; b. Minimal retaining walls; c. Lots of a similar size to the predominant lot sizes in the Binningup townsite adjacent to the Structure Plan site; d. Fuel reduction zones located within private land and not in Public Open Space areas; and e. Drainage contained within the property to the satisfaction of the Shire. **Envisaged Development Controls:** • Scheme provisions - Cut and fill to ensure sympathetic subdivision design to nature site contours; • Local Development Plans to be adopted for Residential development (lot size and design) to reflect the existing Binningup area; • Local Development Plans to take into consideration the unique character of the area; and • Bushfire Management Plans and BAL Assessments.

RD10 – Table 11: Brunswick Potential Residential Development Area – Heppingstone Road

Planning Precinct:	Strategy Implementation:
Brunswick Potential Residential Development Area – Heppingstone Road (RD10) **Location:** Lot 57 Heppingstone Road, Brunswick Junction **Land Area:** 4.8ha **Developable Area:** 3.6ha **Estimated Lot Yield:** 54 lots at R15 density **Plan/Map Schedule:** Strategy Plan Map 4 Bushfire mapping Figure 32, 37 & 38 **Strategy Reference:** Clause 3.1.2.4	**Proposed Land Use:** Residential. **Current GBRS Zoning:** "Rural." **Current TPS Zoning:** "General Farming." **Required GBRS Zoning Change**: Yes to "Urban Deferred" with supporting justification. **Required TPS Zoning Change**: Yes to "Urban Development" subject to "Urban Deferred" progressing. **Lot size/Density**: Low Residential Densities. **Structure Planning required**: Yes to be endorsed by WAPC prior to Urban Deferment being lifted and prior to subdivision/development. **Planning Matters to be Addressed:** The following matters are to be addressed at the GBRS amendment stage • Amenity issues (proximity to Rail Corridor – Sound buffers to be addressed via Notification on Title); • State Planning Policy 5.4 – Road and Rail Noise; • General infrastructure servicing (water, power, sewer, etc.); and • Bushfire Hazard Mapping report 2015 (BWK5, Figures 32, 37 & 38) identified no bushfire hazards on the site. **Envisaged Development Controls:** • Scheme provisions; and • Local Development Plan to address potential noise concerns.

RD11 – Table 12: Brunswick Residential Development Area – South of Brunswick River

Planning Precinct:	Strategy Implementation:
Brunswick Residential Development Area – South of Brunswick River (RD11) **Location:** Lots 15, 16, 100, 102, 103, 150, 153 and 500 Clifton Road and Lots 100 and 101 Wellesley Road **Land Area:** 26.63 ha Special Residential 10.90 ha Special Rural Total area 37.53 ha (excluding reserve area) **Developable Area:** 18.13ha **Estimated Lot Yield:** 343 lots at 666m^2 average **Plan/Map Schedule:** Strategy Plan Map 4 Bushfire mapping Figure 32, 33 & 34 **Strategy Reference:** Clause 3.1.2.5	**Proposed Land Use**: Residential. **Current GBRS Zoning**: Part "Urban", Part "Rural" **Current TPS Zoning/Reservation**: Part "Special Residential", Part "Special Rural", Part "Recreation" and "Public Utilities". **Required GBRS Zoning Change:** Yes from "Part Rural" to "Urban/ Urban Deferred." **Required TPS Zoning Change**: Yes from "Special Residential" and "Special Rural" to "Urban Development." **Lot size/Density**: To be determined upon further investigation. **Structure Planning required**: Yes to be endorsed by WAPC prior to Urban Deferment being lifted and prior to subdivision/development. **Planning Matters to be Addressed:** • Environmental considerations (Proximity to Brunswick River); • GBS Regional Open Space ceding; • Foreshore Management Plan; • Foreshore Reserve fire separation buffer to be identified, where required; • Water supply for Public Open Space; • General site constraints (slope and topographical constraints); • General servicing issues (water, power, etc.); • Sewer constraints – likely infrastructure upgrades and/or fill requirements; • Odour from the Sewer Ponds south of Clifton Road (Lot 300); and • Bushfire Hazard Mapping report 2015 (BWK2, 32, 33 & 34) identified the following: - Extreme and moderate hazard vegetation (river corridor only); - River corridor and possible linkages; and - Not considered a significant constraint to hinder development and should be able to be effectively addressed. **Envisaged Development Controls:** • Scheme provisions; • R-Codes; and • Building Envelopes for Rural Residential properties ensuring sufficient setbacks from river corridor and bushfire hazards. **General Comments:** • Part Lot 153 (south of Clifton Rd) should be rezoned Industry if the Effluent Ponds on Lot 300 are not relocated.

RD12 – Table 13: Harvey Residential Development Investigation Area – King Street

Planning Precinct:	Strategy Implementation:
Harvey Residential Development Investigation Area – King Street (RD12) **Location:** Lots 2 – 4, 14, 15, 102, 200, 201 and 233 King Street, Harvey **Land Area:** 14.77 ha **Developable Area:** 11.08 ha **Estimated Lot Yield:** 102 lots at R15 average **Plan/Map Schedule:** Strategy Plan Map 5a Bushfire mapping Figure 27, 28 & 29 **Strategy Reference:** Clause 3.1.2.7	**Proposed Land Use:** Residential. **Current GBRS Zoning/Reservation**: "Urban", Part "Regional Open Space". **Current TPS Zoning**: Part "Residential R15/30/50". **Required GBRS Zoning Change:** No. **Required TPS Zoning Change**: Yes "Residential R15/30/50" to "Urban Development". **Lot size/Density**: Low residential densities (potentially between R5 to R25). **Structure Planning required**: Yes to be endorsed by WAPC prior to subdivision/development. **Planning Matters to be Addressed:** • Environmental considerations (linkages with the Harvey River North of sites); • Abuts Regional Open Space (Harvey River corridor); • Foreshore Management Plan; • Foreshore Reserve fire separation buffer to be identified, where required; • Subdivision and development should complement the existing surrounding residential area; • State Planning Policy 5.4 – Road and Rail Noise; • Consolidate and integrated road and pedestrian/cycle networks, passive and active Public Open Space, drainage and other infrastructure; and • Bushfire Hazard Mapping report 2015 (H1, Figures 27, 28 & 29) identified the following: - Extreme vegetation along river corridor; and - River corridors vegetation and possible linkages. **Envisaged Development Controls:** • Scheme provisions; • Local Development Plans; • R-Codes; and • Bushfire Management Plans and BAL Assessments.

RD13 – Table 14: Harvey Residential Development Investigation Area – Calder Grove and Roy Street

Planning Precinct:	Strategy Implementation:
Harvey Residential Development Investigation Area – Calder Grove and Roy Street (RD13) **Location:** Lots 3 and 250 Calder Grove, and Lot 4 Roy Street, Harvey **Land Area:** 9.22 ha **Developable Area:** 7.38 ha **Estimated Lot Yield:** 82 lots at R15 average **Plan/Map Schedule:** Strategy Plan Map 5a Bushfire mapping Figure Figures 27, 28 & 29 **Strategy Reference:** Clause 3.1.2.7	**Proposed Land Use**: Residential. **Current GBRS Zoning:** "Urban Deferred". **Current TPS Zoning**: "Residential Development". **Required GBRS Zoning Change:** Yes – Lifting of the "Urban Deferred" **Required TPS Zoning Change**: Yes "Residential Development" to "Urban Development". **Lot size/Density**: Low residential densities (potentially between R5 to R25). **Structure Planning required**: Yes to be endorsed by WAPC prior to subdivision/development and prior to the lifting of the Urban Deferred. **Planning Matters to be Addressed:** • Environmental considerations (linkages with the Harvey River North of sites); • Abuts Regional Open Space (Harvey River corridor); • Foreshore Management Plan; • Foreshore Reserve fire separation buffer to be identified, where required; • Subdivision and development should complement the existing surrounding residential area; • Sewer constraints related to site gradients/fill and connection points; • There is a memorial on the Title of Lot 4 identifying possible site contamination; • State Planning Policy 5.4 – Road and Rail Noise; • Consolidate and integrated road and pedestrian/cycle networks, passive and active Public Open Space, drainage and other infrastructure; and • Bushfire Hazard Mapping report 2015 (H1, Figures 27, 28 & 29) identified the following: - Extreme vegetation along river corridor and Calder Grove; and - River corridors vegetation and possible linkages. **Envisaged Development Controls:** • Scheme provisions; • Local Development Plans; • R-Codes; and • Bushfire Management Plans and BAL Assessments.

RD14 – Table 15: Harvey Residential Development Investigation Area – Kidson Street and Hackett Road

Planning Precinct:	Strategy Implementation:
Harvey Residential Development Investigation Area – Kidson Street and Hackett Road (RD14) **Location:** Lots 30, 100 and 101 Kidson Street, and Lots 9, 69, 70, 74, & 75 Hackett Road, Harvey **Land Area:** 33.92 ha **Developable Area:** 25.44 ha **Estimated Lot Yield:** 239 lots at R15 average **Plan/Map Schedule:** Strategy Plan Map 5a Bushfire mapping Figures 27, 30 & 31 **Strategy Reference:** Clause 3.1.2.7	**Proposed Land Use**: Residential. **Current GBRS Zoning:** "Urban", "Urban Deferred" **Current TPS Zoning**: "Residential R15/30/50", "Residential Development", "Intensive Farming". **Required GBRS Zoning Change:** Yes – Lifting of the "Urban Deferred" **Required TPS Zoning Change**: Yes "Residential R15/30/50", "Residential Development" and "Intensive Farming" to "Urban Development". **Lot size/Density**: Low residential densities (R15 to R25). **Structure Planning required**: Yes to be endorsed by WAPC prior to the Urban Deferment being lifted and prior to subdivision/development. **Planning Matters to be Addressed:** • Environmental considerations (abutting Region Open Space); • Water supply for Public Open Space; • Hydrogeological settings/drainage; • Continuity and interface with existing Residential development; • Noise mitigation from Railway Corridor; • Sewer servicing constraints; • Potential land use conflicts between existing "Intensive Farming" lots and residential development; • WWTP land use considerations; • State Planning Policy 5.4 – Road and Rail Noise; • Consolidate and integrated road and pedestrian/cycle networks, passive and active Public Open Space, drainage and other infrastructure; and • Bushfire Hazard Mapping report 2015 (H3, Figures 27, 30 & 31) identified the following: - Extreme vegetation along diversion drain; - Vegetation along diversion drain; and - Access to the western portion. **Envisaged Development Controls:** • Scheme provisions; • Local Development Plans; • R-Codes; and • Bushfire Management Plans and BAL Assessments.

RD15 – Table 16: Harvey Residential Development Investigation Area – Fryer Road and Anthony Street

Planning Precinct:	Strategy Implementation:
Harvey Residential Development Investigation Area – Fryer Road and Anthony Street (RD15) **Location:** Lots 23 and 24 Fryer Road, and Lot 12 Anthony Street, Harvey **Land Area:** 22.15ha **Developable Area:** 16.61ha **Estimated Lot Yield:** 165 lots at R15 density **Plan/Map Schedule:** Strategy Plan Map 5a **Strategy Reference:** Clause 3.1.2.7	**Proposed Land Use:** Residential. **Current GBRS Zoning:** "Urban Deferred". **Current TPS Zoning**: "Residential Development". **Required GBRS Zoning Change:** Yes – Lifting of the "Urban Deferred". **Required TPS Zoning Change**: Yes "Residential Development" to "Urban Development". **Lot size/Density**: Low residential densities (R15 to R25). **Structure Planning required**: Yes to be endorsed by WAPC prior to the Urban Deferment being lifted and prior to subdivision/development. **Planning Matters to be Addressed:** • Environmental considerations; • Prevent potential land use conflicts between Residential development and Intensive Farming areas; • Water supply for Public Open Space; and • Hydrogeological settings/drainage. **Envisaged Development Controls:** • Scheme provisions; • Local Development Plans; and • R-Codes.

RD16 – Table 17: Harvey Residential Development Investigation Area – West of Third Street and North of Sir James Avenue and Roy Street

Planning Precinct:	Strategy Implementation:
Harvey Residential Development Investigation Area – west of Third Street and north of Sir James Avenue and Roy Street (RD16) **Location:** Area generally bounded by west of Third Street, north of Uduc Road, east of Fourth Street, and north of Sir James Avenue and Roy Street, Harvey **Land Area:** Approx. 50ha **Developable Area:** Potentially 33.94 ha **Estimated Lot Yield:** 310 lots at R15 density **Plan/Map Schedule:** Strategy Plan Map 5a **Strategy Reference:** Clause 3.1.2.7	**Proposed Land Use:** Residential. **Current GBRS Zoning:** "Urban". **Current TPS Zoning**: "Residential R15/30/50" and "Other Categories – Area - Policy". **Required GBRS Zoning Change:** No. **Required TPS Zoning Change**: No. **Lot size/Density**: Low residential densities (R15 to R25). **Structure Planning required**: Yes to be endorsed by WAPC prior to subdivision/development. **Planning Matters to be Addressed:** • Environmental considerations; • State Planning Policy 5.4 – Road and Rail Noise; • Prevent potential land use conflicts between Residential development and Intensive Farming areas; and • Local and State Heritage listed properties (e.g. Lot 50 and 12 Young Street). **Envisaged Development Controls:** • Scheme provisions; • Local Development Plans; and • R-Codes.

RD17 – Table 18: Harvey Residential Development Investigation Area – Korijekup Heights

Planning Precinct:	Strategy Implementation:
Harvey Residential Development Investigation Area – Korijekup Heights (RD17) **Location:** Lots 109, 116, 119 and 108 Sittella Drive, Lots 106 and 107 Rosella Loop, Lot 120 Butcherbird Road and portion of Lot 500 Wallam Road, Harvey **Land Area:** 39.49 ha **Developable Area:** 29.62 ha **Estimated Lot Yield:** 226 lots remaining at R12.5 density **Plan/Map Schedule:** Strategy Plan Map 5a Bushfire mapping Figures 27, 30 & 31 **Strategy Reference:** Clause 3.1.2.7	**Proposed Land Use:** Residential. **Current GBRS Zoning:** "Urban". **Current TPS Zoning**: "Residential Development". **Required GBRS Zoning Change:** No. **Required TPS Zoning Change**: No. **Lot size/Density**: Low residential densities (R15 to R25). **Structure Planning required**: Yes. Note there was a structure plan (Korijekup Heights) that was previously approved in late 1990s. **Planning Matters to be Addressed:** • South West Native Title Claim; • Environmental considerations (abutting regional open space); • Water supply for Public Open Space; • Abutting Primary Regional Road (South Western Highway); • Bushfire risk management (given proximity to regional open space); • Prevent potential land use conflicts between Residential development and Industry lots south of residential areas; • Local and State Heritage listed properties (Harvey Cemetery); • State Planning Policy 5.4 – Road and Rail Noise; and • Bushfire Hazard Mapping report 2015 (H4, Figures 27, 30 & 31) identified the following: - Extreme and moderate hazard vegetation surrounding the area; - Development above existing hazard vegetation; - Single access and sensitive land uses which require second access either to the industrial estate or to Weir Road; and - Management of the adjacent Conservation Park. **Envisaged Development Controls:** • Scheme provisions; • Local Development Plans; • R-Codes; and • and Bushfire Management Plans and. BAL Assessments. **General Comments:** • The previous Structure Plan approved identified 320 lots and 12 composite lots were to be developed. Only 77 lots have been developed since then (WAPC ref: 109377).

RD18 – Table 19: Roelands Residential Development Area – Gardiner Street

Planning Precinct:	Strategy Implementation:
Roelands Residential Development Area – Gardiner Street (RD18) **Location:** Lots 36 and 201 Gardiner Street, and Lot 34 Colton Street, Roelands **Land Area:** 18.84 ha **Developable Area:** 14.13 ha **Estimated Lot Yield:** 145 lots at R10 density **Plan/Map Schedule:** Strategy Plan Map 7 Bushfire mapping Figures 39, 40 & 41 **Strategy Reference:** Clause 3.1.2.9	**Proposed Land Use**: Urban expansion (investigation area) – residential, commercial and other. **Current GBRS Zoning**: Part "Urban" part "Urban Deferred." **Current TPS Zoning**: Part "General Farming", Part "Residential R15/30/50". **Required GBRS Zoning Change**: No. **Required TPS Zoning Change**: Yes from Part "General Farming", Part "Residential R15/30/50" to "Urban Development". **Lot size/Density**: To be determined upon further investigation, potential low residential densities. **Structure Planning required**: Yes to be endorsed by WAPC prior to the lifting of Urban Deferment and prior to subdivision/development. **Planning Matters to be Addressed:** • Site constraints including the high costs associated with providing reticulated water supply to land above the 65m AHD contour; • Servicing provisions; • Amenity issues (proximity to South West Highway, Rail Corridor and Granite Mine on Lot 6209 – noise & dust buffers); • Local Structure Planning will need to give consideration to: - Adequate district drainage - Water management including the suitability of the site for on-site wastewater disposal; - Improving pedestrian linkages to the School site; and - Enhancing a sense of place for all residents within Roelands; • Bushfire Hazard Mapping report 2015 (R2, Figures 39, 40 & 41) identified the following no bushfire vegetation hazard; and • Hydrogeological settings/drainage. **Envisaged Development Controls:** • Scheme provisions. **General Comments:** • Despite the existence of a granite quarry owned by the State Government, Roelands is well situated for future growth given its proximity to the centres of Australind, Bunbury and Collie.

RD19 – Table 20: Australind Residential Development Area – Ditchingham Place

Planning Precinct:	Strategy Implementation:
Australind Residential Development Area – Ditchingham Place (RD19) **Location:** Lot 522 Ditchingham Place, Australind **Land Area:** 14.19 ha **Developable Area:** To be determined **Estimated Lot Yield:** To be determined **Plan/Map Schedule:** Strategy Plan Map 2a Bushfire mapping Figures n/a **Strategy Reference:** Clause 3.1.2.12	**Proposed Land Use**: Residential/Mixed Uses **Current GBRS Zoning**: "Urban Deferred." **Current TPS Zoning**: "Public Purpose". **Required GBRS Zoning Change**: Yes. Lifting of the "Urban Deferred". **Required TPS Zoning Change**: Yes from "Public Purpose" to "Urban Development". **Lot size/Density**: Low to medium residential densities and mixed use precinct. **Structure Planning required**: Yes to be endorsed by WAPC prior to the lifting of Urban Deferment and prior to subdivision/development. **Planning Matters to be Addressed:** • Environmental considerations (abutting Regional Open Space); • Continuity and interface with existing Industrial, Residential and Commercial development; • Consolidated and integrated road and pedestrian/cycle networks, passive and active Public Open Space, drainage and other infrastructure; and • Bushfire hazard mapping. **Envisaged Development Controls:** • Scheme provisions; • Local Development Plans; • R-Codes; and • Bushfire Management Plans and BAL Assessments.

3.2 Low Density Residential (formerly Special Residential)

Historically, the "Special Residential" zone has been used to support the subdivision and development of residential land with lot sizes ranging between 2,000m^2 and 1ha with the intent of retaining portions of remnant vegetation. Instead, these areas will be zoned "Residential" utilising the development controls (such as setbacks and site coverage) under the R-Codes where appropriate.

Currently under DPS No. 1, the minimum lot size for land zoned "Special Residential" is 4,000m^2. There are many areas within the Shire (in particular Leschenault) that are zoned "Special Residential" with site specific subdivision and development provisions listed under Schedule 3 of DPS No. 1. Many of these provisions are similar in nature and/or are no longer applicable as these areas have already been developed. Building envelopes have also been applied as an additional layer of development control.

It is suggested to rezone areas zoned "Special Residential" to "Residential" zone with an allocated low density code to be adopted. It is recommended that the density code of R2.5 (which has a minimum lot size of 4,000m^2 and minimum lot frontage of 40m) or the R5 (which has a minimum lot size of 2,000m^2 and a minimum lot frontage of 30m) be appropriately applied. Notwithstanding, it is recommended that the building envelopes are retained for the established special residential areas as, in some instances, greater setbacks than that permitted by the R-Codes exist.

In addition, the Strategy also recommends the relevant provisions of the "Special Residential" zone be consolidated into a single set of provisions that can be adopted in LPS No. 2 where they are not already covered under the R-Codes that can be applied broadly. It should be noted that there may be certain unique site specific provisions that seek to protect an existing character of a Special Residential estate (such as those areas located within the Leschenault locality) that may need to be retained.

The Strategy recommends that provisions for onsite effluent disposal and water management assessments be made in line with the Government Sewerage Policy.

Strategy	Implementation
Review DPS No. 1 scheme provisions relating to the number of individual site area specific requirements.	LPS No. 2 to be prepared with a view to consolidating site specific provisions currently listed under the "Special Residential" zone as a list of development standards in a statutory mechanism within the LPS No. 2 or a Local Planning Policy. Retention of building envelopes. An additional clause should be included in LPS No. 2 to not allow any further subdivision.
Remove the "Special Residential" zone.	Rezone all "Special Residential" zoned land with a lot average of less than 1ha to "Residential" with an appropriate density code. No further subdivision will be permitted.

3.2.1 Key Localities

3.2.1.1 Brunswick, Beela Road (Map 4)

Lots 166, 167, 168 and 169 Beela Road comprise an area of land that is located east of Brunswick Road and south of Beela Road. The area is currently zoned "General Farming" and provides an entry statement from vehicles along Beela Road coming westward into Brunswick. This site is not identified as being within the Strategic Agriculture Resource policy area and has limited agricultural opportunities. The proposal would be consistent with the Greater Bunbury Strategy.

Strategy	Implementation
Refer to Low Residential Density Precinct LD-RD1. (Table 21, Pg. 39)	
Rezone Lots 166, 167, 168 and 169 Beela Road from "General Farming" to "Urban Development"	Consider rezoning this area as part of preparation of LPS No. 2 after a GBRS amendment has been finalised. Local structure planning required.

3.2.1.2 Harvey, Fryer Road (Map 5a)

Lot 120 Fryer Road, Harvey is approximately 8ha in area and currently being utilised for agricultural purposes. Once developed, this land will act as a buffer between residential land to the east and agricultural land to the west and include a vegetated buffer to be established along the western boundaries of the newly created lots. The approved Structure Plan has proposed 31 lots be developed at R5 and R10 densities.

Lots 3 & 4 Fryer Road, Harvey to the north of Lot 120 have been rezoned from "Intensive Farming" to "Residential Development". In order to achieve consistent development with the land to the south and provide a suitable buffer from neighbouring agricultural activities, it is considered appropriate to rezone Lots 3 and 4 to "Urban Development" in LPS No. 2. Local Structure Planning will need to consider an integrated road and pedestrian network focusing on the connection with Uduc Road, the provision of passive and active public open space and drainage.

Strategy	Implementation
Refer to Low Residential Density Precinct LD-RD2 and LD-RD3. (Tables 22 & 23, Pg. 40 - 41)	
Rezone Lot 120 Fryer Road in accordance with the approved structure plan.	Consider rezoning Lot 120 Fryer Road as part of preparation of LPS No. 2.
Rezone Lots 3 and 4 Fryer Road from "Residential Development" to "Urban Development".	Consider rezoning Lots 3 and 4 Fryer Road as part of preparation of LPS No. 2. Local structure planning required.

3.2.1.3 Harvey, Logue Road (Map 5a)

The Logue Road locality consists of 31 "Special Residential" zoned lots which are mostly developed and 11 larger "Special Rural" zoned lots. Further expansion is considered undesirable due to the proximity to the Harvey Light Industrial Area (LIA) and the existence of surrounding viable agricultural land.

Strategy	Implementation
No further expansion of development in the Logue Road locality.	Areas to be rezoned to "Residential R2" with provisions limiting any further subdivision.

3.2.1.4 Harvey, Weir Road (Map 5a)

Within the Weir Road area exists 11 lots which are mostly developed. There are several larger lots (4,000m²+) which may have potential for further subdivision. It is recommended that consideration be given to amending the GBRS and rezoning Lot 4 (General Farming) to enable "Residential R2.5" in this locality.

R24002 is owned by the Department of Education and formed part of the former Harvey Agricultural College, prior to it re-locating to Wokalup. The Department of Lands has indicated the objective of the State Government is to establish it as a cultural heritage precinct and subdivide it from the larger parent lot (Lot 298). The remainder of the site can accommodate a higher level of development and a GBRS Amendment and Local Structure Planning for this locality will need to be undertaken.

Strategy	Implementation
	Refer to Low Residential Density Precinct LD-RD4. (Table 24, Pg. 42)

3.2.1.5 Leschenault (Map 2a and 2c)

The Leschenault "Special Residential" areas consist of the estates of Leschenault Parklands, Marina Waters, Riverlands, Ashmere Heights and Bountiful Estate as shown on Map 2c. These estates have been progressively developed over the past 25 years and are essentially complete. No further subdivision of these areas is recommended.

Strategy	Implementation
No further expansion of Residential development in the Leschenault locality. No further subdivision of existing lots.	Areas to be rezoned to "Residential R2.5 or R5" and retention of appropriate scheme provisions regarding building envelopes.

3.2.1.6 Myalup Beach Road (Map 6)

Lots 1 and 2 Myalup Beach Road are identified as "Special Residential – Area 6" under DPS No. 1 and corresponding development provisions are contained within Schedule 3. The provisions make reference to a "Subdivision Guide Plan" created in 1990 and which contains lots with a minimum lot size of 1,000m². The land parcel is significantly constrained and contains undulating sand dunes and remnant vegetation and therefore development with a reduced environmental impact is considered more appropriate. A Local Structure Plan for this locality will need to:

- Outline extensive environmental management measures and a bushfire management plan for the site and its potential development;
- Identify appropriate setbacks from the primary dunes and waterways;
- Facilitate maximum retention of native vegetation;
- Provide guidelines to prevent "Cut and Fill" type development; and
- Attempt to retain the natural contours of the locality as much as possible.

Strategy	Implementation
Structure Planning	Modified Local Structure Plan required and provisions of DPS No. 1 to be replaced with new provisions in LPS No. 2 as follows: • Outline extensive environmental management measures for the site and its development; • Identify appropriate setbacks from the primary dunes and waterways; • Facilitate maximum retention of native vegetation; • Provide guidelines to prevent "Cut and Fill" type development; and • Retain the natural contours of the locality as much as possible.

3.2.1.7 Myalup, Lot 100 Lake Preston Road (Map 6)

Lot 100 has been developed as a strata titled development and no modifications to the management provisions are considered necessary. The majority of these lots have a lot size of approximately 3,000m^2 which is equivalent to the R5 density code.

Strategy	Implementation
No change proposed for the strata title development on Lot 100.	Retain the current Scheme zoning

3.2.1.8 Roelands, Meadow Landing (Map 1)

Development on the eastern side of the Forrest Highway south of Raymond Road is dominated by Special Residential development with lots of approximately 2,000m² to 4,000m². Lot 568 Raymond Road is currently zoned "Special Residential". As part of the Scheme Review, the area will need to be rezoned to "Residential" with an appropriate density code.

Strategy	Implementation
No further expansion of subdivision or development in this locality.	Zone appropriately in LPS No. 2.

3.2.1.9 Roelands, Lot 9000 and 9001 Waterloo Road (Map 7)

"Special Residential" growth has occurred east of the Roelands townsite, however further expansion is compromised by the existence of a granite quarry on Lot 6209. It is considered that upon existing "Special Residential" developments being completed, any future development of Roelands should be higher density "Residential" type development as outlined in Clause 3.1.2.8 to ensure efficient land use.

Strategy	Implementation
Refer to Low Residential Density Precincts LD-RD5. (Table 25, Pg. 43)	
No further expansion upon completion of currently endorsed Special Residential developments.	Zone appropriately in LPS No. 2 Preclude any new dwellings located on the eastern side of Lot 9001 within 1,000m of the quarry for public safety and amenity reasons.

3.2.1.10 Warrawarrup (Map 5b)

This locality was originally established to support the harness racing facility located on private land on Lot 40 Peterson Road, with provisions in DPS No. 1 reflecting this use. The pattern of settlement within this locality has included the provision of rear laneways to facilitate the movement of horses.

In recent years however the site has not been sufficiently maintained, much to the detriment of the local community. Provisions should be imposed to ensure it is effectively maintained and protected with strict development controls imposed in LPS No. 2. No further expansion of the "Special Residential" land in this locality is considered appropriate.

Strategy	Implementation
No further expansion of Special Residential development in the Warrawarrup locality.	Zone appropriately in LPS No. 2.

3.2.1.11 Yarloop, Bishop Place (Map 8)

Bishop Place comprises a small "Special Residential" development of 15 lots within a cul-de-sac arrangement. Approximately half of the lots have been developed. No further expansion of this locality is considered appropriate.

Strategy	Implementation
No further expansion of Special Residential development in the Bishop Place locality.	Zone appropriately in LPS No. 2.

Low Density Residential (formerly Special Residential) Precincts

LD-RD1 – Table 21: Brunswick Low Density Residential Development Area – Beela Road

Planning Precinct:	Strategy Implementation:
Brunswick Low Density Residential Development Area – Beela Road (LD-RD1) **Location:** Lot 166, 167, 168 & 169 Beela Road **Land Area:** 7 ha **Developable Area:** 5.25 ha **Estimated Lot Yield:** 15 lots at 2,000m^2 average **Plan/Map Schedule:** Strategy Plan Map 4 Bushfire mapping Figures 32, 35 & 36 **Strategy Reference:** Clause 3.2.1.1	**Proposed Land Use**: Low Density Residential. **Current GBRS Zoning:** "Rural". **Current TPS Zoning**: "General Farming". **Required GBRS Zoning Change:** Yes from "Rural" to "Urban deferred". **Required TPS Zoning Change**: Yes to "Urban Development" following a GBRS amendment. **Lot size/Density**: To be determined upon further investigation, low residential densities (R2.5 – R5). **Structure Planning required**: Yes to be endorsed by WAPC prior to subdivision/development prior to lifting of the urban deferment. **Planning Matters to be Addressed:** • Site constraints (creek lines, slope and topographical constraints, irrigation channel - Roelands); • Servicing considerations (onsite effluent disposal/servicing); • Hydrogeological settings/drainage; and • Bushfire Hazard Mapping report 2015 (BWK4, Figures 32, 35 & 36) identified moderate hazard vegetation in south east corner. **Envisaged Development Controls:** • Scheme provisions; and • R-Codes.

LD-RD2 – Table 22: Harvey Low Density Residential Development Area – Fryer Road

Planning Precinct:	Strategy Implementation:
Harvey Low Density Residential Development Area – Fryer Road (LD-RD2) **Location:** Lot 120 Fryer Road **Land Area:** 7.985ha **Developable Area:** N/A **Estimated Lot Yield:** 15 at R5 density 16 at R10 density **Plan/Map Schedule:** Strategy Plan Map 5a **Strategy Reference:** Clause 3.2.1.2	**Proposed Land Use:** Low Density Residential. **Current GBRS Zoning:** "Urban". **Current TPS Zoning**: "Special Residential" (SRes12). **Required GBRS Zoning Change:** No. **Required TPS Zoning Change**: Yes to "Residential R10" and "R5" accordingly. **Lot size/Density**: Low residential densities (R10 to R5) **Structure Planning required**: No. There is an existing Structure Plan that has been endorsed by WAPC on 23/7/2013 **Planning Matters to be Addressed:** • Subdivision to be submitted for approval; • General servicing (sewer, water, power, roads, etc.); • Sewer constraints due to site gradient/fill requirements; • The existing Special Residential provisions (Schedule 3, Area 12) to be reviewed and consolidated into new scheme for this area were appropriate; and • Public Open Space requirement identified in Structure Plan. **Envisaged Development Controls:** • Scheme provisions; and • R-Codes.

LD-RD3 – Table 23: Harvey Low Density Residential Development Area – Fryer Road

Planning Precinct:	Strategy Implementation:
Harvey Low Density Residential Development Area – Fryer Road (LD-RD3) **Location:** Lot 3 & 4 Fryer Road **Land Area:** 7.75 ha **Developable Area:** 5.81 ha **Estimated Lot Yield:** 10 at R5 density 30 at R10 density **Plan/Map Schedule:** Strategy Plan Map 5a **Strategy Reference:** Clause 3.2.1.2	**Proposed Land Use:** Low Density Residential. **Current GBRS Zoning:** "Urban Deferred". **Current TPS Zoning**: "Residential Development". **Required GBRS Zoning Change:** Yes – Lifting of the "Urban Deferred". **Required TPS Zoning Change**: Yes, update to "Urban Development". **Lot size/Density**: Low residential densities (R5 to R10). **Structure Planning required**: Yes. To be endorsed by the WAPC prior to the Lifting of Urban Deferment. **Planning Matters to be Addressed:** • Structure Plan will need to address the following - General servicing; - Separation distances and buffers; - Integration with Intensive Farming to the west and Urban lots to the east; - Public Open Space requirements; and - Sewer constraints due to site gradient/fill requirements. **Envisaged Development Controls:** • Scheme provisions; and • R-Codes.

LD-RD4 – Table 24: Harvey Low Density Residential Development Area – Weir Road

Planning Precinct:	Strategy Implementation:
Harvey Low Density Residential Development Area – Weir Road (LD-RD4) **Location:** Lot 4 & 2 Weir Rd, Harvey **Land Area:** 2.13 ha **Developable Area:** 1.70 ha **Estimated Lot Yield:** 6 lots at 3,000m^2 average **Plan/Map Schedule:** Strategy Plan Map 5a Bushfire mapping Figures 27, 28 & 29 **Strategy Reference:** Clause 3.2.1.4	**Proposed Land Use**: Low Density Residential **Current GBRS Zoning:** "Urban", "Rural" **Current TPS Zoning**: "Special Residential" (SRes 3), "General Farming" **Required GBRS Zoning Change:** Yes to "Urban Deferred" **Required TPS Zoning Change**: Yes to "Residential R5" and "Urban Development" subject to "Urban Deferred" progressing. **Lot size/Density**: Low residential densities (R5) **Structure Planning required**: Yes to be endorsed by WAPC prior to the Lifting of Urban Deferment and prior to subdivision/development **Planning Matters to be Addressed:** • Environmental considerations; • Consolidate and integrated road and pedestrian/cycle networks, passive and active Public Open Space, drainage and other infrastructure; • Sewer extension may be unviable; • Subdivision and development should complement the existing surrounding residential area; and • Bushfire Hazard Mapping report 2015 (H2, Figures 32, 35 & 36) identified the following: - Extreme and moderate hazard vegetation (river corridor only); - River corridor and possible linkages; - Slope steepness; - Single access to northern portion; and - BAL-29 vegetation clearing requirements. **Envisaged Development Controls:** • Scheme provisions; • R-Codes; and • Bushfire Management Plans and BAL Assessments.

LD-RD5 – Table 25: Roelands Low Density Residential Area – Waterloo Road

Planning Precinct:	Strategy Implementation:
Roelands Low Density Residential Development Area – Waterloo Road (LD-RD5) **Location:** Lots 9000 and 9001 Waterloo Road, Roelands **Land Area:** 52.77 ha **Developable Area:** 34.30 ha **Estimated Lot Yield:** 50 lots range from 3,000m^2 to 15,000m^2 on Lot 9001. 25 lots range from 3,000m^2 to 15,000m^2 on Lot 9000. **Plan/Map Schedule:** Strategy Plan Map 7 Bushfire mapping Figures 39, 40 & 41 **Strategy Reference:** Clause 3.2.1.9	**Proposed Land Use**: Low density residential. **Current GBRS Zoning:** "Urban" and "Urban Deferred". **Current TPS Zoning**: "Special Residential". **Required GBRS Zoning Change**: Yes – Lifting of the "Urban Deferred". **Required TPS Zoning Change**: Yes to "Urban Development". **Lot size/Density**: To be determined upon further investigation, low residential densities (5,000m^2 average, R2) for the balance of the land not yet rezoned. **Structure Planning required**: Yes already endorsed by WAPC prior to the lifting of Urban Deferment prior to subdivision/development. **Planning Matters to be Addressed:** • Environmental considerations (Environmental Review); • Servicing provisions; • Amenity issues (proximity to South West Highway, Rail Corridor and Granite Mine on Lot 6209 – noise & dust buffers); • Hydrogeological settings/drainage; and • Bushfire Hazard Mapping report 2015 (R1, Figures 39, 40 & 41) identified the following: - Extreme and moderate hazard vegetation along southern and eastern boundary; - Second Road access is required; and - Slope steepness. **Envisaged Development Controls:** • Scheme provisions; • R-Codes; and • Bushfire Management Plans and BAL Assessments. **General Comments:** • Additional "Special Residential" lots on the eastern section of Waterloo Road is constrained by the existence of a granite quarry owned by the State Government, however Roelands is well situated for future growth given its proximity to the centres of Australind, Bunbury and Collie; and • Area subject to existing Scheme Amendment 109.

3.3 Rural Residential (formerly Special Rural)

There are a number of properties located within the Shire which are currently zoned "Special Rural". The *Planning and Development (Local Planning Schemes) Regulations 2015* has sought to standardise the names of zones used in Schemes by Local Governments. In order to be consistent with the terminology used in the LPS Regulations, it is proposed to re-term the "Special Rural" zone as the "Rural Residential" zone.

Rural residential developments have historically been attractive due to the lifestyle options they provide and in certain locations also serve an important function of acting as buffers between potentially conflicting land uses, particularly residential and agricultural land.

In recent years there has been reduced support for rural residential type developments at a State Government level such as the South West Regional Planning and Infrastructure Framework, SPP 2.5 and the GBS. No additional "Rural Residential" or similar development will be permitted unless already identified in the Greater Bunbury Structure Plan and the Local Governments' Local Planning Schemes and Local Planning Strategies.

Clause 6.3 of DPS No. 1 outlines the development standards and requirements relating to the "Rural Residential" zone however there are also a number of area specific provisions outlined in Schedule 4 of DPS No. 1 for specific areas. Many of the clauses however are identical (size of rain water tanks or effluent disposal) or redundant as these areas have now been developed. As part of the preparation of LPS No. 2, it is proposed that these provisions are consolidated.

The Strategy recommends that provisions for onsite effluent disposal and water management assessments be made in line with the Government Sewerage Policy.

Strategy	Implementation
Replace the terminology "Special Rural" with "Rural Residential".	Revised terminology to be included in LPS No. 2.
Review DPS No. 1 scheme provisions relating to site area specific requirements.	LPS No. 2 to be prepared with a view to consolidating site specific provisions for "Rural Residential" areas.

3.3.1 Key Localities

3.3.1.1 Cookernup (Map 9)

There are a significant number of "Intensive Farming" zoned properties with lot sizes below the minimum required under DPS No. 1 surrounding the Cookernup townsite (Refer to Map 9). As the predominant size of these lots is consistent with the "Rural Residential" zone, it is considered appropriate to amend the zoning to "Rural Residential" in LPS No. 2, to better reflect the existing settlement pattern.

As part of the rezoning process, a review of the land use permissibility and development controls will need to be considered overall for the "Rural Residential" zone and having particular regard to the Cookernup locality. Many of the existing land uses and structures may become non-conforming land uses that may cause conflicts and should be addressed.

Currently the Shire's Local Planning Policy restricts the size of outbuildings in the "Special Rural" and the "Rural Residential" zones to 190m^2. There are, however, no size restriction in

the “Intensive Farming” zone in the Shire’s Scheme or a Local Planning Policy. To ensure a consistency across all lots and to maintain the rural amenity of the locality, retention of the 190m^2 is recommended.

Strategy	Implementation
Rezone applicable undersized “Intensive Farming” lots to “Rural Residential”	Consider rezoning in preparation of LPS No. 2. Review the land use permissibility for the Rural Residential zone in general and for the Cookernup area. Retain current shed size at 190m^2.

3.3.1.2 Harvey, Herbert Road (Map 5a)

Portions of Lots 25 and 92 Herbert Road are zoned “Special Rural”. When developed, these lots will provide an important buffer between residential properties to the north and agricultural properties to the south. To the east Lots 101 – 105 are between 1-2ha in area and zoned “Intensive Farming”. It is considered appropriate these properties are rezoned to “Rural Residential” which will reinforce the buffer to agricultural land.

Development in this locality will need to take into account the buffer from the waste water treatment plant to the south and will require building envelopes to be established in the northern portion of the lots.

Strategy	Implementation
Rezone Lots 101-105 from “Intensive Farming” to “Rural Residential”.	Consider rezoning as part of preparation of LPS No. 2. Development in this locality will need to take into account the buffer from the waste water treatment plant to the south and will require building envelopes to be established in the northern portion of the lots.

3.3.1.3 Harvey, Korijekup Avenue (Map 5a)

At the corner of Korijekup Avenue and Sixth Street, Harvey are 10 lots which are currently zoned “Intensive Farming” and all approximately 2,000m² in area. As the lot sizes in this locality are consistent with the “Rural Residential” zoning it is considered appropriate to rezone these properties under LPS No. 2 to “Rural Residential”. Several of the properties are utilised for a “Farm Machinery Sales and Servicing” business, which would be permitted to continue to operate as a non-conforming use.

Strategy	Implementation
Rezone Lots 1-10 from “Intensive Farming” to “Rural Residential”.	Consider rezoning as part of preparation of LPS No. 2.

3.3.1.4 Harvey, Logue Road (Map 5a)

The 11 lots zoned "Special Rural" in Logue Road act as a buffer between the adjoining "Special Residential" lots and neighbouring agricultural land. It is considered that these lots serve an important function and therefore should be retained. No further expansion of "Rural Residential" type development should be considered in this locality.

Strategy	Implementation
No further expansion of Rural Residential development in the Logue Road locality.	N/A

3.3.1.5 Leschenault, Cathedral Avenue – west of Forrest Highway (Map 2c)

Along Cathedral Avenue in Leschenault exists a corridor of "Special Rural – Landscape Protection" zoned properties which have provisions in DPS No. 1 addressing both visual and land management concerns. Clause 4.4 of Schedule 4 of the DPS No. 1 also contains restrictions on subdivisions with a minimum lot size of 2ha required south of Crimp Crescent and 5ha north of Crimp Crescent. Due to environmental constraints and the high value placed on the visual amenity of the locality, it is considered that these restrictions be retained in LPS No. 2.

It is considered that using appropriate zonings is a more effective way to control lot size and impose development restrictions rather than the current reference to Crimp Crescent. To this effect lots along Cathedral Avenue are to be zoned "Rural Residential" in LPS No. 2. Notwithstanding, the Cathedral Avenue locality should be identified in LPS No. 2 as a "Special Control Area" with consolidated management provisions.

Within the locality of Leschenault exists a network of lineal open space corridors which should be investigated and where appropriate upgraded to allow for nature based recreation and improved pedestrian, horse-riding and bike networks. Development in this manner will reflect the original intention of these corridors and provide the opportunity for improved health and wellbeing of the community.

Strategy	Implementation
No further subdivision or expansion of Rural Residential development	Lots to be zoned "Rural Residential". Identify as a "Special Control Area" in LPS No. 2 with specific provisions to this locality. Consideration to developing a connected path network using existing open space reserves for multiple user groups.

3.3.1.6 Myalup, Lot 200 Lake Preston Road (Map 6)

Lot 200 Lake Preston Road has been developed as a purple title development and no further development or subdivision potential is proposed.

3.3.1.7 Uduc, Forestry Road (Map 5b)

Thornton Drive has been developed with lots approximately 2ha in area and there is also several larger neighbouring “Special Rural” zoned properties to the east. Due to the lack of available services in this locality and environmental constraints, particularly the existence of a high water table which results in seasonal wetlands, it is considered that no further subdivision should be considered.

Strategy	Implementation
No further expansion or intensification of Special Rural development.	Lots to be zoned “Rural Residential”.

3.4 Rural

Under DPS No. 1, rural properties are presently zoned “General Farming” or “Intensive Farming”, and this Strategy recommends retention of these zones to ensure appropriate protection of the irrigated and non-irrigated farmland within the Shire.

It is acknowledged the WAPC is the determining authority for subdivision applications. SPP 2.5 and Development Control Policy (DCP) 3.4 provide the WAPC with guidance and policy framework in the subdivision of rural land. On this basis, it is recommended that the LPS No. 2 adopt criteria for rural land that is consistent with SPP 2.5 and DCP 3.4.

Strategy	Implementation
Retain “Intensive Farming” and “General Farming” zones.	Include subdivision criteria within LPS No. 2 consistent with SPP 2.5 and DCP 3.4 in regard to applications for rural subdivision.

3.4.1 Rural Land with Significant Environmental Values

The Shire acknowledges that in certain locations within the Shire rural land parcels possess significant environmental values which reduce their capacity to be utilised for agricultural purposes. In particular, the existence of remnant native vegetation, conservation status waterways, ecological linkages and lots in coastal areas are most affected.

The *Shire of Harvey Biodiversity Strategy* (HBS) outlines the direction of the Shire with regards to management of natural resources and protection of environmentally important areas. The document contains mapping of native vegetation located throughout the Shire on both public and privately owned land. Much of the privately owned land is zoned “General Farming” under DPS No. 1 which creates a difficult situation for landowners as they are often unable to use that land in accordance with its zoning, nor able to obtain a clearing permit to clear the native vegetation.

As such, it is recommended that an additional zoning of “Rural Conservation” be established under LPS No. 2 for rural land parcels containing high quality native vegetation, including riparian vegetation and associated waterways, in order to preserve significant environmental features and remnant vegetation.

Consistent with the Shire’s Biodiversity Strategy the zoning of land as “Rural Conservation” will be voluntary and incentive based. This Strategy identifies properties which may be appropriate for a “Rural Conservation” zoning to be pursued by the landowners. A number of other properties within the Shire may also qualify for this zoning and the Shire will assess rezoning requests on their merits against the criteria outlined above.

Strategy	**Implementation**
To update the Shire’s Biodiversity Strategy for approval by the WAPC.	Consider a “Rural Conservation” zoning for rural properties with significant environmental values, inclusive of incentives for voluntary rezonings in LPS No. 2 or as a Scheme Amendment.

3.4.2 Rural Land with Priority Agricultural Values

The GBRS identifies land within the Shire which is classified as “Priority Agriculture”. The Shire will give due regard to this classification during the assessment of development applications. Consideration will be balanced against the environmental, visual and community objectives contained within proposed LPS No. 2.

The proposed Myalup Horticultural Area is currently depicted within the GBRS as “Public Purpose State Forest Reserve” and this designation is reflected on the Strategy Map. However, a proposed Amendment to the GBRS is currently being investigated to change the purpose of the State Forest Reserve to a reserve purpose that reflects the intended development of the area for a variety of land uses primarily based around the development of this locality for horticultural land use.

Strategy	Implementation
Priority Agriculture	The Priority Agriculture classification will be applicable and given due regard during the assessment of development applications. Consideration is to be balanced against the environmental, visual and community objectives contained within proposed LPS No. 2.
Align the land use controls applicable to the Myalup Horticultural Area with the GBRS.	A GBRS reservation will automatically be imposed in the local scheme if and when it occurs.

3.4.3 Issues for Development in Rural Areas

The Shire has vast areas of rural land that needs to be protected from urban expansion and non-rural land uses in bona fide rural areas. The rural areas within the Shire do not have a uniform character or amenity as each rural locality has a number of different environmental and agricultural attributes, for example horticultural areas on the Swan Coastal Plain, irrigated farmland and the broad acre areas within the scarp.

In 2015, the term “amenity” was defined in the Scheme via the *Planning and Development (Local Planning Schemes) Regulations 2015*. The introduction of this definition provides an opportunity to identify the character and the amenity of the Shire’s distinct rural localities.

It is recommended that within proposed LPS No. 2 consideration be given to defining rural amenity to establish a stronger statutory planning framework for rural land within the Shire, protecting each locality’s current and future rural attributes, and deter any detrimental impacts via changes in land use. An appropriate approach and methodology will be determined to identify the amenity of these areas as part of the review process. Notwithstanding, it is acknowledged that the current known development issues in the rural areas include (but are not limited to) the following:

- controls for the establishment of a second house (caretaker dwelling/ancillary accommodation);
- appropriate and compatible non-rural uses in specific rural localities such as rural processing activities;

- unanticipated or current uses creating issues as a result of future and developing rural and agricultural industries and technologies;
- adequacy of existing scheme and local planning policies in protecting Places of Landscape Value – with regards to setbacks, design and materials; and
- appropriate separation distances/buffers for agricultural activities such as poultry farms in relation to surrounding land uses to ensure potential land use conflicts are minimised.

Strategy	Implementation
Development controls.	To determine and identify the amenity of the rural areas and whether amenity should be defined in context of the zone or specific areas. Review the zoning and land use permissibility as part of the Scheme Review for rural zoned land. Review development controls relating to: • appropriate and compatible non-rural uses in specific rural localities; • unanticipated or current uses creating issues as a result of future and developing rural and agricultural industries and technologies; • adequacy of existing scheme and local planning policies in protecting Places of Landscape Value – with regards to setbacks, design and materials; and • appropriate separation distances/buffers for agricultural activities in relation to surrounding land uses to ensure potential land use conflicts are minimised, with due regard given to the Department of Health's *Guidelines for the Separation of Agricultural and Residential Land Uses*. • secondary housing in rural areas • protection of landscape character areas. • separation distances/buffers to water resources.

3.5 Retail and Commercial

The Strategy Maps identify proposed locations for expansion of commercial activities and identifies three key Activity Centres - the Harvey Town Centre, Australind Village (Neighbourhood Centre) and the Treendale District Centre. Currently in DPS No. 1, there are several zonings related to commercial activities including "Shop", "Office" and "Other Commercial – Showroom". Given the current similarity of uses permitted within each zone it is considered appropriate that the "Shop" and "Office" zones be combined to a single "Commercial" zoning under LPS No. 2. "Other Commercial – Showroom" will be retained and will relate specifically to the retailing and wholesaling of larger goods (e.g. white goods, car sales etc.). In addition, it would be appropriate to consider mixed use residential and commercial developments within the Town Centre locations.

3.5.1 Key Localities

3.5.1.1 Australind Neighbourhood Centre (Maps 2a and 2b)

The Australind Village (Neighbourhood Centre) consists of a number of individual lots which are owned both privately and by the Shire. The Australind Village on Lot 225 is zoned "Shop" with additional use rights listed in Schedule 7 of DPS No. 1. The other privately owned lots in the precinct are zoned "Shop" or "Office" and Lot 208, which is owned freehold by the Shire is zoned "Special Use – Other Community".

The lots comprising the Australind Village are fully developed, consisting of built form and car parking. Any expansion would need to be vertical and would require the provision of additional parking which is currently at capacity. Vertical expansion may be unviable at present however an increase in the permissible uses can be achieved by rezoning all lots within the centre to "Commercial". This is consistent with the recommendations of the WAPC's Activity Centre Policy and the objective of creating a diverse built environment through mixed-use planning.

In the longer term the retail capacity of the activity centre may be able to increase through appropriate mixed-use development of Lot 210 Mulgara Street, (owned by the Shire) which is immediately east of the existing shopping centre.

Strategy	Implementation
Refer to Retail and Commerce Precinct AC1. (Table 26, Pg. 57)	
Rezone Lot 225 Old Coast Road, Lots 224, 226, 227 Mardo Avenue, and Lots 207, 210, 220 Mulgara Street, Australind from "Shop" / "Office" to "Commercial".	Consider rezoning as part of preparation of LPS No. 2.
Consider long term expansion of Centre to include Lot 210 Mulgara Street.	Consider rezoning as part of preparation of LPS No. 2 with provisions for "Mixed-Use" zoning to be developed.
Consider appropriate zoning for Lot 1Old Coast Road.	Consider appropriate zoning.
Improve connectivity between all commercial centres.	Implementation of local and regional path plans.

3.5.1.2 Binningup (Map 3)

There are currently three lots in Binningup which are zoned as “Shop” located in a cluster along Ilyarrie Street. The Binningup General Store occupies one of the lots with the other two remaining vacant. The current zoning of “Shop” will be amended to “Commercial” under LPS No. 2.

The Binningup Beach Local Structure Plan includes the provision of a “Village Centre” which may provide up to 900m² of retail floor space. It is considered that this Village Centre will cater for the additional population created by the new development, whilst the existing town centre will service the population to the north. Both commercial centres should be well connected, catering for all modes of transport, whilst establishing their own individual but complimentary sense of place.

Strategy	Implementation
Rezone 3 lots along Ilyarrie Street from “Shop” to “Commercial”.	Consider rezoning as part of preparation of LPS No. 2.
Improve connectivity between both commercial nodes and develop each with their own sense of place.	Implementation of local and regional path plans.

3.5.1.3 Brunswick (Map 4)

The majority of properties located in the Brunswick main street are zoned “Shop”, however there are a number which are not currently occupied. As such, it is recommended that no additional properties be identified for commercial purposes in order that existing properties are fully utilised. Whilst additional commercial properties are not required in the short – medium term, rezoning existing properties from “Shop” to “Commercial” will provide a greater mix of available uses a maybe a sufficient catalyst to reduce current vacancies.

Strategy	**Implementation**
Rezone all lots currently zoned “Shop” to “Commercial”.	Consider rezoning as part of preparation of LPS No. 2.

3.5.1.4 Cookernup (Map 9)

Currently there is one property in Cookernup zoned “Shop”. Due to the low residential density in Cookernup, it is considered that this is sufficient to service the community for the short – medium term and therefore no further expansion is proposed. Notwithstanding, the existing property is to be rezoned to “Commercial” in LPS No. 2.

Strategy	**Implementation**
Rezone existing property zoned “Shop” to “Commercial”.	Consider rezoning as part of preparation of LPS No. 2.

3.5.1.5 Harvey Town Centre (Maps 5a)

The Harvey townsite contains a vibrant commercial centre with "Shop" zoned properties generally located along Uduc Road, Hayward Street and Harper Street and "Office" zoned properties along Becher and Gibbs Streets. Consistent with recommendations contained in the previous sections of this Strategy, it is considered that these two zonings be combined to create a single "Commercial" zoning. This has the potential to result in additional shops being located on the side streets of Becher and Gibbs Streets, however, it is considered that both uses are compatible.

To ensure the continuing dominance of Uduc Road as the main commercial street within Harvey, Lots 12 – 14 and 34 currently zoned "Residential" between Harper Street and Sutton Street on the northern side of Uduc Road should be rezoned to "Commercial" in LPS No. 2. Although currently used as residences, non-conforming use rights would apply which would enable their ongoing use for residential purposes, until such time as demand dictates a change in use.

The area bound by Newell Street, Herbert Road, Buckby Road and Young Street is predominantly zoned "Other Commercial – Showroom" with one property zoned "Special Use" (church) and six "Residential" zoned properties. The six residential properties are to be rezoned to "Other Commercial – Showroom" to provide for additional growth. Although currently used as residences, non-conforming use rights would apply which would enable their ongoing use for residential purposes until such time as demand dictates a change in use.

A portion of Lot 500 (107) Uduc Road (Harvey Police Station) is zoned "Residential" with the remaining section being zoned "Special Use - Other Community". It is recommended that this be amended in LPS No. 2 to make the entire lot "Special Use - Other Community". The remaining residential lot on the corner of Young and Newell Streets will be rezoned to "Commercial" to match adjoining properties.

Strategy	Implementation
Refer to Retail and Commerce Precinct AC2 (Table 27, Pg. 58)	
Rezone all lots from "Shop" / "Office" to "Commercial". Rezone Lots 12, 13, 14 and 34 Uduc Road from "Residential" to "Commercial". Rezone Lots 1 & 2 Young Street, Lots 3 and 4 Newell Street and Lots 9 & 80 Buckby Road from "Residential" to "Other Commercial – Showroom".	Consider rezoning as part of preparation of LPS No. 2.

3.5.1.6 Roelands (Map 7)

Lots 12 and 13 Government Road, Roelands are both partially zoned "Shop". In the short - medium term this amount of commercial zoned land may be sufficient, however, it is considered appropriate to rationalise the zonings so that all of Lot 12 is zoned "Commercial", and the entirety of Lot 13 is zoned "Residential".

Furthermore, the neighbouring property at Lot 23 (No. 10) Hayward Street, is "Reserved for Public Utilities" under DPS No. 1. The property is developed as a private dwelling and no longer contains any of its original use as a public works depot. Rezoning the property to "Residential" is considered appropriate.

Strategy	Implementation
Rezone Lot 12 Government Road from "Shop / Residential" to "Commercial". Rezone Lot 13 Government Road from "Shop / Residential" to "Residential".	Consider rezoning as part of preparation of LPS No. 2.

3.5.1.7 South Treendale (Maps 2a)

The South Treendale Structure Plan contains one commercial site of 300m^2 net lettable area on the south-western boundary abutting The Boulevard. The Treendale District Centre is required to retain its commercial dominance within this locality, however, there is an opportunity to provide for additional commercial land within the vicinity of the Collie River, particularly for uses such as restaurants, cafés, higher density residential and recreation. This could be achieved as part of "mixed-use" development with a vertical separation of commercial and residential uses. This outcome would further promote a healthy built environment within the Australind locality. The structure plan restricts commercial lots to have a maximum net lettable area to 300m^2.

Strategy	Implementation
Consider commercial precinct adjacent to river, particularly café / restaurant / mixed use type development.	"Mixed-use" zoning to be included in LPS No. 2. Modifications to the South Treendale Local Structure Plan as required.

3.5.1.8 Treendale Activity Centre (District Centre) (Map 2a)

The Treendale District Centre Structure Plan outlines the future growth of the commercial precinct and includes, but is not limited to, the provision of a mix of residential, retail, office, mixed-use, food and entertainment and community uses amongst others. The approved Structure Plan identified a maximum of 20,000m^2 of net lettable retail floor space. The first stage has been constructed and it is anticipated that the Structure Plan will provide suitable guidance for the ongoing development of this precinct. It is considered important to retain or increase building bulk and residential densities around the activity centre which will ensure the ongoing viability of the commercial precinct which may be achieved through the introduction of an "Activity Centre" zone. Further research regarding the most appropriate means of implementing this zoning will be required, prior to implementation.

Strategy	Implementation
Development in accordance with the endorsed Treendale District Centre Structure Plan.	Ongoing.
Impose minimum residential densities around town centre in accordance with Activity Centres policy.	Include increased minimum densities and building bulk around Treendale in LPS No. 2 to ensure maximum efficiency of strategically located land. Investigate possibility of introducing "Mixed-Use" zoning in LPS No. 2.

3.5.1.9 Kingston (Neighbourhood Centre) (Map 2a)

Lot 9020 Leisure Drive within the Kingston Estate is dedicated for a Local Shopping Centre under the Kingston Structure Plan and identified as a Neighbourhood Centre within the WAPC's Activity Centre Policy. The site is yet to be developed and retention of its retail and commercial capacity is recommended. The Structure Plan acknowledged that there should be 4,500m^2 net lettable area be available for a mixture of retail and/or office land uses.

Strategy	Implementation
Retention of Lot 9020 Leisure Drive as a Neighbourhood Centre.	Consider rezoning under LPS No. 2 to preserve potential Neighbourhood Centre site.

3.5.1.10 Wokalup (Map 5b)

There are currently no commercial zoned properties in Wokalup, however there are four sites on South Western Highway with commercial uses being permitted:

- Lot 36 – portion zoned "Special Use – Service Station";
- Lot 13 – portion zoned "Special Use – Additional Use No. 1" (allowing for an "Eating House", "Craft Studio" and "Shop";
- Lot 56 – portion zoned "Tourist"; and
- Lot 100 – zoned "Special Use – Hotel".

It is recommended that the eastern portion of Lots 13 and Lot 56 be rezoned to "Residential" in LPS No. 2.

Strategy	Implementation
Rezone Lot 13 South Western Highway from "Special Use – Service Station" to "Residential". Rezone Lot 56 South Western Highway from "Tourist" to "Residential".	Consider rezoning as part of preparation of LPS No. 2.

3.5.1.11 Yarloop (Map 8)

The Yarloop townsite currently contains seven lots zoned "Shop" which are located along Station Street. Some premises survived the Yarloop/Harvey/Waroona January 2016 Bushfire, while most of the lots are now vacant. Redevelopment of the commercial premises is to be guided by the Yarloop Town Development Plan.

There is one single property zoned "Special Use – Other Community" on the corner of Station Street and Kendell Street which has been developed as a shop that should be rezoned "Commercial" or "Public Purpose" under LPS No. 2. Consideration is to be given to allowing for residential development on commercially zoned lots.

Strategy	Implementation
Rezone all lots currently zoned “Shop” to “Commercial”. Rezone Lot 21 Station Street from “Special Use – Other Community” to “Commercial/Public Purpose” Consideration is to be given to allowing for residential development on commercially zoned lots.	Consider rezoning as part of preparation of LPS No. 2.

Retail and Commercial Precincts

AC1 – Table 26: Australind Neighbourhood Centre Precinct

Planning Precinct:	Strategy Implementation:
Australind Neighbourhood Centre (AC1) **Location:** Lots 88, 89, 90, 91, 92 Paris Road, Lots 1, 209, 225 Old Coast Road, Lots 224, 226, 227 Mardo Avenue, and Lots 207, 208, 210, 220 Mulgara Street, Australind **Land Area:** 8.30ha **Developable Area:** N/A **Maximum Estimated Floor Space:** 15,000m^2 **Plan/Map Schedule:** Strategy Plan Map 2a and 2b **Strategy Reference:** Clause 3.5.1.1	**Proposed Land Use**: Activity Centre (Neighbourhood Centre) consisting of Mixed Residential, Commercial, Civic and Recreational. **Current GBRS Zoning:** "Urban". **Current TPS Zoning/Reservation**: "Residential R15/30/50", "Shop", "Office", "Special Use: Service Station", "Recreation" "Public Purpose". **Required GBRS Zoning Change**: No **Required TPS Zoning Change:** Yes as follows: • "Shop", "Office" and "Special Use: Service Station" to either "Commercial", "Mixed-use" or "Centre"; and • "Residential R15/30/50" to "Residential" allow for an appropriate; mix of "Medium and High" in line with Activity Centres Policy. **Lot size/Density**: Mix density residential and commercial, medium to high residential densities (R40 to R60) being conducive to a Neighbourhood Centre. **Structure Planning required**: Yes (Activity Centre plan) to be endorsed by WAPC prior to subdivision/development. **Planning Matters to be Addressed:** • Flooding Risk Assessment (1:100 Flood Level); • Remnant vegetation on Council owned Lot 201; • R60 density to consider character and interface issues; • Identify 400m and 800m ped-shed and accessibility; • Clearly identify the potential higher density/infill and any mixed use areas; • Context in Greater Bunbury Region Activity Centres Policy and Liveable Neighbourhoods; and • Local and State Heritage listed sites. **Envisaged Development Controls:** • Scheme provisions; • Activity Centre Structure Plan with a mixture of residential/ commercial uses; and • Supporting Local Planning Policies or Local Development Plans. **General Comments:** • Implementation of local and regional path plans; • Identified in SWRPIF, GBS, SPP's and Guidelines requirements; and • Consider long term expansion of Centre to include Lot 210 Mulgara Street.

AC2 – Table 27: Harvey Town Centre

Planning Precinct:	Strategy Implementation:
Harvey Town Centre (AC2) **Location:** Area bound east of Young Street (inclusive of Lots 1, 2, 4 Uduc Road), north of Buckby Road (west of Herbert Road), south of Gibbs Street (west of Hayward Street), continuing over the Railway to include Lots 12 - 14, 22 – 26, 28 – 30, 34, 36 – 39 and 44 Uduc Road and Lots 11, 15, 31, 32, 34, 35, 36 and 43 Harper Street, Harvey **Land Area:** 4.8ha **Developable Area:** N/A **Maximum Estimated Floor Space:** 5,000m^2 **Plan/Map Schedule:** Strategy Plan Map 5a **Strategy Reference:** Clause 3.5.1.5.	**Proposed Land Use**: Town Centre. **Current GBRS Zoning:** "Urban". **Current TPS Zoning**: "Shop", "Office", "Special Use: Other Community", "Special Use: Service Station", "Special Use: Public Purpose", "Special Use: Hotel". **Required GBRS Zoning Change:** No. **Required TPS Zoning Change:** Yes: • Police Station and Shire of Harvey rezoned "Special Use – Other Community" and "Residential" to "Reserve: Civic and Community" "Residential R15/30/50", "Shop" and "Office" to either "Commercial", "Mixed-use" or "Centre"; • "Other Commercial – Showroom" to "Service Commercial"; and • Harvey Hotel site rezoned "Special Use: Hotel" to "Tourist". **Lot size/Density**: Medium to high residential densities (R40 to R60) being conducive to a major town centre. **Structure Planning required**: Yes (Activity Centre Plan) to be endorsed by WAPC prior to subdivision/development. **Planning Matters to be Addressed:** • Local heritage considerations; • Railway Corridor and Train Station: future passenger and freight line use; • Urban residential development to be designed to complement surrounding area and to be attractive to the types of people expected to live in the town; • Address shortage in car parking through a cash in lieu mechanism - consider utilizing portion of railway reserve to build a car park; • Non-conforming use rights for residential areas to be designated a non-residential zone (e.g. Commercial); and • Prevention or mitigation of potential land use conflicts between commercial and residential land uses. **Envisaged Development Controls:** • Scheme provisions – potential for precinct specific controls; • Activity Centre Structure Plan - mixed use residential/commercial; • Heritage design elements; and • Supporting Local Planning Policies or Local Development Plans. **General Comments:** • The area proposed includes many existing shops and commercial entities.

3.6 Industrial

3.6.1 Key Localities

3.6.1.1 Australind (Map 2a)

The Australind Light Industrial Area adjacent to the Forrest Highway is mostly undeveloped and will provide adequate "Light Industry" zoned land in the short – medium term. As such, no additional land is proposed for industrial uses within the Australind locality. The site will require a comprehensive structure plan prior to any further development and subdivision can be considered.

Lots 350 and 355 Old Coast Road are occupied by a Titanium Oxide Plant operated by Tronox (formerly Cristal Pigment Australia). There have been a number of environmental, amenity and traffic concerns raised by the Shire and the community over the sites continued operation.

It should be noted that the development of these sites and the lease agreements are largely controlled by State Government. In 2011, the State Government approved the extension of the lease to use the site until 31st December 2036, with a review period every 5 years. Notwithstanding this however, the Shire has continued efforts to encourage its relocation.

Strategy	Implementation
Refer to Industrial Precinct LIA1. (Table 28, Pg. 62)	
Ensure comprehensive planning for the Australind Light Industrial Area (which includes the Spud Shed site).	Require a comprehensive structure plan prior to further subdivision or development. Consider consequential amendments to the Scheme to reflect the outcomes of the structure plan for the locality – particularly the suitability of the industrial area for any further high trip generating land uses such as growers markets and the need for suitable industrial uses in the locality.

3.6.1.2 Brunswick (Map 4)

Brunswick has an established industrial area which consists of both "General Industry" and "Light Industry" zoned properties. These are generally clustered in a corridor running along the South Western Highway, south of the George Avenue intersection. There is approximately 27ha of available industrial zoned land on Lot 200, which is largely undeveloped. It is considered that the available land for industrial purposes in Brunswick is sufficient for future needs within the existing zoned properties.

Lot 300 George Avenue is zoned "Residential", however contains an area of approximately 6ha which is used for settling ponds associated with the milk processing plant on Lot 2 South Western Highway (corner George Avenue). Consideration will need to be given to the long-term use of the site for residential, industrial or mixed use at the Scheme review stage. The settling ponds are in proximity to nearby residences, the closest of which is approximately 280m away. Under the Environmental Protection Authority Guidelines, the recommended separation distance between milk processing and the nearest sensitive land uses is 200-500m. Site specific studies will need to be prepared to determine the exact distance/extent of any Special Control Area through LPS No. 2 or any amendments to expand the settling ponds' use or develop the land for residential use in this locality.

Strategy	Implementation
Refer to Precinct ID1. (Table 29, Pg. 63)	
Minimise potential land use conflict with surrounding residential area.	Consider rezoning as part of preparation of LPS No. 2. Consideration will need to be given to the long-term use of the remainder of the site for residential, industrial or mixed use at the Scheme review stage. Site specific studies are prepared to determine the extent of any Special Control Area or buffer requirements through LPS No. 2.

3.6.1.3 Harvey (Map 5a)

Industrial land in Harvey is located within the Harvey Light Industrial Area (LIA) which contains properties which are zoned both "General Industry" and "Light Industry". The locality is mostly developed with only two "General Industry" lots remaining undeveloped. The "Light Industrial" lots have not been developed at this stage. Additional industrial land should be made available in the Harvey to Wokalup vicinity to provide for economic growth, however the expansion of the current LIA is not considered appropriate due to the existence of residential properties to the south-east and surrounding areas of native vegetation. Furthermore, the existence of cap-rock in the LIA makes earthworks and drainage challenging.

There is the need for flat accessible industrial land within the vicinity of the Harvey or Wokalup townsites to cater for local demand for rural industry uses such as heavy haulage transport depots and farm machinery related businesses. Further investigation should seek to identify appropriately located land for this purpose. This potential industrial area would need access to existing haulage routes such as Uduc, Forestry and Hocart Roads and be a suitable distance from the Harvey townsite.

It is therefore recommended a study and analysis of a range of sites against some qualitative criteria (Multi Criteria Analysis) be undertaken as part of a Townsite Strategy. This should analyse the types of sites required, investigate industrial area lot demand, traffic movements, servicing requirements and consider constraints to selected sites including environmental, visual impacts and amenity impacts.

Strategy	Implementation
Investigate options for appropriately located land around the Harvey and Wokalup area suitable for industrial uses as part of a Townsite Strategy.	Consider rezoning of appropriate land in LPS No. 2.

3.6.1.4 Kemerton Strategic Industrial Area Precinct (Map 10)

The Kemerton Strategic Industrial Area (KSIA) Structure Plan was approved by the WAPC on 24 May 2017. The KSIA Structure Plan outlines various issues relating to the industrial area including potential future subdivision, provision of rail linkages and environmental measures.

The KSIA Structure Plan provides a planning framework and the implementation requirements to guide future development within the KSIA Precinct. The overall objective of the Structure Plan is to enable the establishment of resource processing industries and associated supporting activity in order to fulfil Kemerton's designated role as the primary strategic industrial area for the South-West region.

Strategy	Implementation
Refer to Kemerton Strategic Industrial Area Precinct. (Table 30 Pg. 64)	
Future development in accordance with the KSIA Structure Plan.	Development and subdivision approvals are consistent with the objectives of the Scheme and KSIA Structure Plan.

3.6.1.5 Yarloop (Map 8)

Yarloop contains a significant "General Industry" zoned property on the northern side of Johnston Road which was the site of the former timber mill. The site is currently being used for machinery storage and processing of vegetables and will continue to be used as an industrial site into the longer term. On the southern side of Johnston Road are ten lots zoned as "Light Industry", which contain a mixture of light industry businesses, residential dwellings and several vacant lots.

It is considered that the available industrial land is sufficient for the short – medium term needs of Yarloop and to this effect no additional land is proposed for this purpose. The proximity of these properties to the Yarloop townsite will need to be considered in the context of protecting employment lands and avoiding any land use conflict that may arise. The future use and role of this land is to be guided by the Yarloop Town Development Plan once approved by the WAPC.

Strategy	Implementation
Refer to Industrial Precinct ID2. (Table 31, Pg. 65)	
Sufficient land available in Yarloop.	N/A

Industrial Precincts

LIA1 – Table 28: Australind Light Industrial Area

Planning Precinct:	Strategy Implementation:
Australind Light Industrial Area (LIA1) **Location:** Lot 561 Paris Road, Australind **Land Area:** 18.43ha **Developable Area:** N/A **Estimated Lot Yield:** 137 lots **Plan/Map Schedule:** Strategy Plan Map 2a **Strategy Reference:** Clause 3.6.1.1	**Proposed Land Use:** Light Industry. **Current GBRS Zoning**: "Urban". **Current TPS Zoning:** "Light industry". **Required GBRS Zoning Change:** No **Required TPS Zoning Change:** No. **Lot size/Density**: 1,500m^2 – 4,600m^2. **Structure Planning required:** Yes **Planning Matters to be Addressed:** • Previously a subdivision approval was (WAPC Ref: 147030) issued in January 2013 – subject to conditions mentioned below: - Buffer requirements to surrounding residential areas (Treendale and Kingston); - Landscaping to Forrest Highway; - Road widening Paris Road; - Environmental protection (Black Cockatoos); and - General servicing (water, electricity, roads, telecommunications, etc.). • Prior to any further subdivision or development, a Structure Plan will need to address the above concerns particularly the suitability of the industrial area for any further high trip generating land uses such as growers markets and the need for suitable industrial land uses in the locality; and • Hydrogeological settings/drainage. **Envisaged Development Controls:** • Scheme provisions; • Design Guidelines/Local Development Plans; and • Bushfire Management Plans and vegetation clearing requirements.

ID1 – Table 29: Brunswick Industrial Area

Planning Precinct:	Strategy Implementation:
Brunswick Industrial Area (ID1) **Location:** Lots 2, 6, 23, 26, 200, 202, 203 & 203 South Western Highway, and Lots 14, 13, 16, 17, 200, 500 and 501 Papps Road **Land Area:** 72.94ha **Developable Area:** 27 ha (Lot 200 only) **Estimated Lot Yield:** 26 - 65 lots (between 10,000m^2 and 4,000m^2) **Plan/Map Schedule:** Strategy Plan Map 4 **Strategy Reference:** Clause 3.6.1.2	**Proposed Land Use**: Industrial. **Current GBRS Zoning**: "Industry" and "Urban". **Current TPS Zoning**: Part "General Industry", Part "Light Industry" **Required GBRS Zoning Change**: No. **Required TPS Zoning Change**: Yes: • Rezone Lots 2 and 301 "Industry - Dairy" to reflect its use; and • Rezone remaining "General Industry" to "Light Industry". **Lot size/Density:** To be determined upon further investigation based on land capability, servicing and industry needs (potentially 3,000m^2 to 10,000m^2, average 4,000m^2). **Structure Planning required**: Yes to be endorsed by WAPC prior to subdivision/development. **Planning Matters to be Addressed:** • Amenity issues (Odour & Noise); • Potential land use conflicts between industrial area and surrounding sensitive land uses (commercial and residential); • Significant local employment business area for the townsite; • Consideration will need to be given to the long-term use of the remainder of the site for residential, industrial or mixed use at the Scheme review stage subject to resolution of the odour buffer issues form the effluent ponds; • High employment area and priority given to protect local dairy industries; • Hydrogeological settings/drainage; and • Heritage consideration and protections. **Envisaged Development Controls:** • Scheme provisions (Buffer zones or Special Control Area) and require Structure Plan over area with specific development control and objective considerations.

KSIAP – Table 30: Kemerton Strategic Industrial Area Precinct

Planning Precinct:	Strategy Implementation:
Kemerton Strategic Industrial Area Precinct (KSIA) **Location:** Kemerton Strategic Industrial Area **Land Area:** 7,508 ha (including buffer areas) **Developable Area:** 2,024 ha (Kemerton Strategic Industry zone) 284 ha (Kemerton Ancillary Industry zone) **Estimated Lot Yield:** 157 (indicative only) **Plan/Map Schedule:** Strategy Plan Map 10 **Strategy Reference:** Clause 3.6.1.4	**Proposed Land Use**: Strategic Industrial Area. **Current GBRS Zoning/Reservation:** "Industrial", "Regional Open Space", "Public Purpose", "Special Control Area No. 2 (Rural Zoning)". **Current TPS Zoning**: "Kemerton Strategic Industry", "Kemerton Ancillary Industry", "Kemerton Industry Buffer". **Required GBRS Zoning Change:** No. **Required TPS Zoning Change**: No. **Lot size/Density**: Lot yield to be taken on a case by case scenario based on proposed land use. The structure plan indicates the following lot sizes ranges: • Kemerton Strategic Industry Zone (the Core) – 5ha to 71ha • Kemerton Ancillary Industry Zone (north of Wellesley Rd and adjacent to Wellesley River) – 5,000m^2 to 2ha • Kemerton Ancillary Industry Zone (between Wellesley Rd and Marriot Rd, and Marriot Rd and Develin Rd) – 4,000m^2 to 5.5ha **Structure Planning required**: Kemerton Strategic Industrial Area Structure Plan approved by WAPC on 24 May 2017. **Planning Matters to be Addressed:** • Part One of the Kemerton Strategic Industrial Area Structure Plan sets out the land use, subdivision and development, and environmental management requirements to be addressed as part of future development; • Environmental considerations (Environmental Review); • Amenity concerns depending on types of industries to be considered (such as waste discharge, noise, odours, light, etc.) in relation to adjoining land owners and proximity to urban areas; • Coordination of State Government approvals (which may include but not necessarily limited to DWER, EPA, DevelopmentWA and JTSI); • Fit for purpose water supply; and • Abutting Primary Regional Road reserve (Forrest Highway). **Envisaged Development Controls:** • Scheme provisions; • Kemerton Strategic Industrial Area Structure Plan; • GBRS SCA No. 2 provisions; and • State Government approvals (which may include but not necessarily limited to DWER, EPA, DevelopmentWA and JTSI).

ID2 – Table 31: Yarloop Industrial Area

Planning Precinct:	Strategy Implementation:
Yarloop Industrial area (ID2) **Location:** Lots 5 – 19, 500 and 4636 Johnston Road, and 3 and 60 Francklyn Road, Yarloop **Land Area:** Approx. 23.3 ha **Developable Area:** 23.3 ha **Estimated Lot Yield:** N/A **Plan/Map Schedule:** Strategy Plan Map 8 **Strategy Reference:** Clause 3.6.1.5	**Proposed Land Use:** Industrial **Current GBRS Zoning:** "Industry" **Current TPS Zoning**: "General Industry", "Light Industry" **Required GBRS Zoning Change**: No. **Required TPS Zoning Change:** No. **Lot size/Density**: No proposal to further subdivision/development. **Structure Planning required:** Yes to be endorsed by WAPC prior to subdivision/development. **Planning Matters to be Addressed:** • Heritage considerations; • Servicing (water, power and sewer/effluent disposal); • Within close proximity to existing residential area will likely restrict any future intensification of industrial area; • The area was recently affected by the Yarloop/Harvey/Waroona bushfires in January 2016; • Fit for purpose water supply; and • Any redevelopment of the precinct into an industrial area will need to take into consideration SPP 3.7 and the "Town Development Plan" outcomes, once endorsed by the WAPC. **Envisaged Development Controls:** • Scheme provisions (buffers and land uses); and • Local Planning Policies (design criteria such as setbacks, building design and parking). **General Comments:** • The Yarloop area is expected to have little to modest growth; • The GBS and South West Regional Planning and Infrastructure Framework suggest Yarloop is not expected to grow; and • The existing industrial area is considered sufficient for the Town.

3.7 Tourism

Tourism is an important industry in the South West region. The *Planning Tourism Guidelines 2014* and Planning Bulletins 83, 99 and 49 outlines the State's planning policy position for tourism in Western Australia. These documents also provide guidance to strategic planning and statutory decision making. Some of the key aspects of these documents that relate to the Shire include:

- the need to protect and promote caravan and camping sites,
- ensure consistent approach to the development of tourism sites and facilities, and
- provide for flexibility in the design and assessment of tourism and mixed use development.

In order to encourage the growth of tourism in the Shire, it is considered a broad and flexible approach should be adopted which recognises the various forms that tourism development may take.

This is particularly the case in the Shire where both urban and rural styles of tourist ventures are possible. It is considered that greater recognition and promotion of the tourism attributes of all localities throughout the Shire needs to be addressed.

This Strategy recommends the adoption of a broad approach to tourism that:

- Provides considerable flexibility in relation to the uses that can be carried out in appropriate zonings;
- Inherently provides for the delivery and physical dispersal of tourism related activities;
- Promotes tourism in competition with other land use activities;
- Protects existing caravan and camping parks;
- Recognises tourism as an activity that can be provided as part of a mixed-use offering; and
- Introduces levels of assessment that support the delivery of tourism related outcomes where appropriate.

DPS No. 1 contains a "Tourist" zone as well as tourism type uses within other zonings such as "Bed & Breakfast" or "Short-Stay Accommodation". In developing a broad approach to tourism, it is considered that more flexibility is required to encourage a mixed-use approach. For example, a rural property may also be developed with accommodation and/or recreational activities, whilst retaining use for its predominance as a rural lot.

It is recommended that the existing "Tourist" zoning contained within DPS No. 1 be redefined as "Tourism" (in accordance with the new *Planning and Development (Local Planning Regulations) 2015*) for those properties which are specific to this purpose (e.g. caravan parks), whilst expanding the permissibility of tourist type uses across the Shire. All uses will need to be considered on their merits and Scheme provisions developed to address issues of servicing, visual amenity, retention of the predominant land use and the mitigation of land use conflict within and external to the development.

The development of passive and active recreation which caters for all user groups should not be the sole responsibility of private industry. The Shire has many natural and built assets both on freehold land and on land Reserved for "Recreation". Their ongoing development will encourage a healthy balance between the built and natural environments. In addition, creating a variety of destinations and activities will facilitate a sense of community wellbeing and improved interaction between residents and tourists. An example of where a dedicated tourism precinct may be established is within the vicinity of the Harvey Dam.

Strategy	Implementation
Identify the need for provisions and criteria to be included in LPS No. 2 for the assessment of tourist development applications.	LPS No. 2 to contain provisions specific to the assessment of tourist development applications.
Identify appropriate tourist land uses and appropriate zonings for tourist development in LPS No. 2.	The "Tourist" zoning to be redefined as "Tourism" in accordance with the *Planning and Development (Local Planning Scheme) Regulations 2015* for specific tourist developments. Identify appropriate area zonings which can accommodate tourist development in addition to their primary zoning (for example – Harvey Dam). Include appropriate definitions and Scheme provisions for all tourist developments in LPS No. 2. All tourist developments to be considered on merit.
Identify opportunities to develop Shire owned passive and active recreation assets throughout the Shire to encourage increased utilisation by visitors and residents.	Undertake audit of Shire owned assets with tourism potential and develop recommendations to better utilise them for tourism purposes.

3.7.1 Point Douro – Lots 50 and 51 Old Coast Road, Australind (Map 2a)

Lots 50 and 51 (previously Lot 30) Old Coast Road are located on the Leschenault Estuary, with frontage to the Old Coast Road on its eastern boundary.

In 1997, the Shire initiated Scheme Amendment No. 13 to DPS No. 1 to rezone the site to facilitate a canal based residential and tourist development, including a conservation area and commercial node. Following initiation of this Amendment, the proposal was referred to the EPA for assessment. The EPA determined that an Environmental Review was required, which was subsequently undertaken and endorsed by the EPA for advertising in 2000.

The Amendment was advertised in conjunction with the Environmental Review in late 2001 for a period of 60 days, during which a large number of submissions were received. In 2004, the Shire advised the WAPC that due to the complexity of the submissions received, no formal consideration of them had been made and that it was awaiting further advice from the Department of Environment.

In response to the public submissions, in December 2007, the EPA released Bulletin 1275, which outlined its report and recommendations on the proposed canal development on the site. The EPA determined that the development could be implemented, subject to a number of detailed plans being prepared for approval by relevant State agencies and the Shire, including;

- Environmental Management Plan (addressing the management of the foreshore and conservation reserves, terrestrial fauna and waterbird protection, and control of mosquito nuisance);
- Sea level rises and Climate Change;
- Acid Sulphate Soils Management Plan;
- Water Management Plan (including surface and ground water quantity and quality); and
- Construction Management Plan.

In late 2009, the applicant proposed to remove the canal component of the Scheme Amendment, which would have required readvertising or a new Amendment. The Amendment has since been withdrawn.

Recently, Lot 51 was purchased by the WAPC, with the intent to reserve the land for "Regional Open Space" and "Waterways" and include it within the Leschenault Regional Park.

Strategy	Implementation
To retain the existing "Tourist" zone over Lot 50 and Lot 51 to be reserved for "Regional Open Space" and "Waterways" under the GBRS.	Retain Lot 50 as "Tourism". Lot 51 to be reserved for "Regional Open Space" and "Waterways" under the GBRS.

3.7.2 Myalup, Freshwater Lakes (Map 6)

The estate was originally approved as a tourism venture and is located on land zoned as "General Farming", which is subject to "Restricted Use" provisions contained within DPS No. 1 (R16). The development consists of ten lots in Kookaburra Close which are approximately 1ha in area and 63 lots which surround an artificial lake which are approximately 1,000m² in area. There are also an additional five lots that border the State Forest which are between 9,000m² - 1ha in area. Provisions relevant to this development contained in DPS No. 1 include a length of stay restriction of three months per year. There have been a number of requests to amend this restriction to allow permanent occupancy.

To date, each of the ten lots on Kookaburra Close contain dwellings and only six of the lakeside lots have been developed. The restriction on permanent residency on lots adjoining the lake has contributed to the limited development in this portion of the estate.

Lots 1 - 63 Lakeside Drive should be rezoned to remove the short stay restriction and provide the opportunity for permanent accommodation. The lifting of this restriction will not avoid the need for adequate studies being undertaken to demonstrate the capability of the current effluent disposal system to accommodate the estimated increase in usage. The need to provide communal recreation or a 'civic place' to promote a sense of community within this isolated development is also considered appropriate which should be managed by the landowners. Provisions specific to this development should be retained in LPS No. 2.

Strategy	Implementation
Retain as Tourist/Special Use with an unrestricted length of stay occupancy entitlement.	Remove the short stay restriction from LPS No. 2 subject to demonstrating the capability of the current effluent disposal system to accommodate the estimated increase in usage. Investigate the need for communal recreation or civic place, to establish a sense of community, to be managed by the land owners.

3.8 Heritage Protection

3.8.1 European Heritage

Under the guidance of its Heritage Advisory Committee, the Shire has reviewed its Local Municipal Heritage Inventory (MHI) and was adopted by Council at its Ordinary Meeting in October 2015. The Shire's MHI lists approximately 235 places considered to be of heritage significance and identifies a recommended Management Category for each place, thus providing the basis for establishing a revised Heritage List. Currently, the Shire's Heritage List of Places is listed under Schedule 1 of the DPS No. 1.

At the October 2015 Meeting, Council also adopted two supporting heritage Local Planning Policies: Local Planning Policy for Heritage Places and Local Planning Policy for the Yarloop Heritage Area. The Local Planning Policy for Heritage Places provides guidance and support with regards to the assessment of development applications for places to be registered in the Shire's future Heritage List.

The Local Planning Policy for the Yarloop Heritage Area has been revoked in response to the Yarloop/Harvey/Waroona January 2016 Bushfire.

Strategy	Implementation
Examine opportunities to interpret, recognise and encourage conservation of heritage places.	The Heritage Advisory Committee to explore opportunities for: • the ongoing conservation of Shire owned heritage buildings; • establishing incentives for landowners of heritage places to encourage conservation; • interpreting heritage places throughout the Shire; and • establishing heritage awards for landowners demonstrating best-practice conservation measures.
Develop a new Heritage List based on the findings of the Municipal Heritage Inventory.	To be prepared and adopted in conjunction with the Scheme review.

3.8.2 Aboriginal Heritage and Native Title

This Strategy acknowledges the past and present traditional owners of the Shire of Harvey sub-region. The Shire of Harvey sub-region is entirely within Gnaala Karla Booja country.

The *Native Title Act 1993* provides for the recognition and protection of Aboriginal and Torres Strait Islander people's native title rights and interests. Certain government actions, such as grants of freehold, have been found to extinguish native title.

When planning for urban growth and development, native title is an important consideration as land in and around towns that may be identified for certain development options may be subject to a native title claim or determination. Broadly however, native title has been extinguished on the majority of land in the Strategy area by the granting of freehold title.

The recognised traditional owners for the Shire of Harvey sub-region are the Gnaala Karla Booja, one of the six groups collectively recognised as the Noongar traditional owners of the South West under the South West Native Title Settlement. This has been recognised in the *Noongar (Koorah, Nitja, Boordahwan) (Past, Present, Future) Recognition Act 2016*.

On 8 June 2015, after extensive negotiations and authorisation by the Noongar people, the Western Australian Government signed (executed) the six South West Native Title Settlement Agreements with the Ballardong, Gnaala Karla Booja, South West Boojarah, Wagyl Kaip & Southern Noongar, Whadjuk and Yued groups. Following successful registration of the Settlement Agreements, and Settlement commencement, any native title rights that may exist will be surrendered in exchange for a negotiated package of benefits, including formal recognition of the Noongar people as traditional owners (already complete – see above), land, investments and the establishment of Noongar Regional Corporations.

A major component of the Settlement is the establishment of the Noongar Land Estate through the transfer of a maximum of 320,000ha of Crown land for cultural and economic development, comprising 300,000ha as reserve land and 20,000ha as freehold title. Under the Settlement, the Noongar Boodja Trust will be a major landholder in the Wheatbelt and South West regions. Traditional owners are expected to be more closely involved in land use planning in the district upon commencement of the Settlement. This land will provide cultural and economic development opportunities for the Noongar Regional Corporations representing the recognised Noongar groups. Until the South West Native Title Settlement commences, the *Native Title Act 1993 (Cth)* still applies to all land users planning activities in the Settlement Area.

Across the sub-region the *Aboriginal Heritage Act 1972 (WA)* applies at all times, and will continue to do so after all native title processes are resolved. Land users must always consider Aboriginal Heritage in their planning processes.

The South West Native Title Settlement is not yet finalised. Once it is, the Gnaala Karla Booja people are expected to be more closely involved in land-use planning in the relevant parts of the sub-region. Following resolution of the South West Native Title Settlement, the Strategy will need to be reviewed in consultation with the Gnaala Karla Booja Noongar people and possibly amended to incorporate any changes that may be required.

3.9 Natural Resource Areas

3.9.1 Basic Raw Materials

Extractive industries comprise an important component of the Shire's economy and are located throughout all areas of the Shire. The Shire contains approximately 40 active extractive industry sites which contain a variety of materials including sand, limestone and gravel. Generally, gravel is extracted from the hills area, sand from the Swan Coastal Plain and limestone from coastal areas, particularly around the Myalup area.

Studies, including the publication "*Basic Raw Materials – Demand and Supply Study for the Bunbury – Busselton Region*" (WAPC 2012), indicate that there will be increasing demand for basic raw materials within the Harvey region and therefore consideration will need to be given as to how to best manage this land use from a governance and operator perspective, whilst ensuring environmental and off-site impacts are mitigated.

The Shire's *"Extractive Industry Local Law 2017"* contains provisions to manage this land use and it is considered that the current process is operating effectively in terms of management and rehabilitation. As such, there is no requirement for additional measures to be proposed under this Strategy.

It is noted that the GBRS *Strategic Minerals and Basic Raw Materials Resource Policy 2005* identifies several areas as "Strategic Minerals and Basic Raw Materials Resource Policy Areas". It is a requirement of the Policy that these areas are shown on Local Planning Scheme maps and the provisions of the Policy are applied to protect these areas for future mining/extraction. The identification of these areas and appropriate provisions will be included in LPS No. 2.

Strategy	Implementation
Identify strategic minerals and basic raw materials as provided in the GBRS policy.	To be incorporated into Scheme maps in LPS No. 2. Provisions reflecting the GBRS policy to be included in LPS No. 2.

3.9.2 Water Catchment Areas

The GBRS identifies a significant area within the eastern portion of the Shire as Special Control Area No. 1 for "Water Catchments". This area is subject to the *Public Water Supply Catchment Policy* of the GBRS, the purpose of which is to prevent uses or development that would prejudice the quality of water supplies for public use. Much of the Special Control Area No .1 is Crown land containing native vegetation which should be delineated in LPS No. 2.

Strategy	Implementation
Identify water catchment areas (SCA No. 1) as provided in the GBRS policy.	To be incorporated into Scheme maps in LPS No. 2. Provisions reflecting the GBRS policy to be included in LPS No. 2.

3.9.3 Water Supply and Wastewater Disposal

It is the intent of the Strategy to ensure developments are required to connect to scheme water, reticulated sewerage (if available) in accordance with the Government Sewerage Policy and where there is no scheme water available, to have access to a sufficient supply of potable water that is of the quality specified under the Australian Drinking Water Quality Guidelines 2004.

Where reticulated sewerage is not available, proposals will need to be guided by the Government Sewerage Policy. The Scheme should incorporate requirements for on-site effluent disposal and potable water supply where these services are not by reticulation. To assess the type of on-site wastewater disposal systems, a 'site-and-soil evaluation', in accordance with Australian Standard 1547 (AS/NZS 1547), is required and should be referenced in the documentation in support of proposals.

Scheme provisions should be included to reflect the above.

Strategy	Implementation
Ensure LPS No. 2 reflects contemporary potable water and wastewater disposal requirements.	Ensure LPS No. 2 incorporates suitable provisions which reflect the requirements of the Government Sewerage Policy and public health requirements in regard to potable water supply.

3.10 Transport

3.10.1 Major Transport Routes

Major roads servicing the Shire include the Forrest Highway, South Western Highway and Coalfields Highway. The Forrest Highway links the South-west region to Perth and, whilst it passes through the Shire, it bypasses all major towns and settlements. The South Western Highway passes through a number of towns including Harvey, Brunswick, Roelands, Wokalup and Yarloop, however has experienced a significant decrease in traffic since the opening of the Forrest Highway in 2009. The Coalfields Highway is the main road connecting the coastal towns of Bunbury, Australind and Eaton with Collie, a major mining hub which employs many residents from the coastal areas.

It is anticipated that road usage will continue to increase and Main Roads WA, being the responsible authority, will continue to maintain the primary roads to a suitable standard. Whilst the South Western Highway runs through a number of inland towns, there are no plans to create bypasses at this stage.

There is a need for assessment and consideration of Marriott Road to be reclassified as a Main Roads controlled road in the context of further planned industrial expansion at Kemerton.

The Shire and Main Roads WA hold concerns regarding the increase of horticulture related farm machinery on Forrest Highway and the potential for road safety and as such are currently developing an alternative road network to provide a safer option for farm machinery.

The GBS identifies a further bridge over the Collie River, east of the Forrest Highway, to link future development proposed for each side of the river. The bridge is being planned as part of the BORR project.

It is the intent of the Strategy to seek to avoid the risk of future land-use conflict with noise by identifying the location of relevant transport corridors on the Strategy maps and clearly distinguishing the function of the transport corridor.

Design solutions commensurate with the function of the transport corridor and preferred land use interface will be required in accordance with SPP 5.4.

The noise impact on a proposed noise sensitive land-use and/or development is to be addressed at the next stage of the planning process to meet the SPP's noise targets.

3.10.2 Bunbury Outer Ring Road (BORR)

The Main Roads WA BORR planning project interfaces with the Shire's East Australind Long-Term Urban Investigation Area (LUIA), as defined on the Strategy Map.

Land to the east of the BORR will be retained for rural land uses. The suitability of this area for a change of use will be investigated as part of the Bunbury Geographe Sub-regional Strategy.

A grade separated interchange is planned at the BORR northern tie-in, including an east-west connection from Clifton Road to Paris Road. However, it is noted that in order to limit impacts on land and environmental at this location, only limited traffic movements are being considered (primarily movements to and from the north and cross-connection from Clifton Road to Paris Road).

It is noted that the BORR will also sever Treendale Road. A new intersection is proposed to allow for north-facing ramps thereby avoiding heavy vehicle congestion at the intersection of Forrest Highway and Raymond Road. The existing intersection with Raymond Road west of the BORR will also need to be reconfigured to accommodate the existing lots and secondary access to the Meadow Landing estate.

To ensure all landowners are aware of the likely impacts these intersections may have on affected properties, these intersections should be depicted on the Scheme Maps in LPS No. 2 through appropriate reservations once final designs have been completed.

Strategy	Implementation
Flyovers and intersection upgrades to be depicted on the Scheme maps.	Include in LPS No. 2 as appropriate reservations.

3.10.3 Rail

Rail services run adjacent to the South Western Highway and are mainly used for freight purposes, however a daily passenger service (the Australind) connects Bunbury and the inland towns with Perth. An east-west spur linking Brunswick to the Worsley Industrial Area near Collie also exists.

The railway infrastructure has in recent years been upgraded and caters for significant movement of freight, most of which is transported to the Bunbury Port. The Kemerton Strategic Industrial Area Structure Plan reflects the potential for an additional rail freight spur off the southwest mainline connecting the Kemerton Strategic Industrial Area to the Port of Bunbury. Preliminary planning identified the need for grade separation of South Western Highway to facilitate the addition of a rail spur into Kemerton.

The GBS indicates a future fast passenger rail service adjacent to the Forrest Highway with a station in the Bunbury CBD and a connecting service to Busselton.

3.10.4 Public Transport

The GBS makes reference to the need for high quality public transport hubs, however, the current level of public transport in the Harvey area is of a low standard to encourage regular patronage. Presently there are no options for catching public transport to Bunbury from any of the inland towns along the South Western Highway. Whilst there are some buses that service the Australind area, they are both infrequent and have limited routes which would prevent many residents from using them. Without significant investment from the State Government, it is considered that residents of the Shire will continue to be heavily reliant on private motor vehicle use. It is recommended that a high frequency public transport service between Treendale, Eaton and other important public destinations be investigated.

3.10.5 Boating Facilities

There are presently several boat launching facilities around the Australind area, with the most significant being the boat ramp located at Ridley Place. The Shire has recently completed an extensive upgrade to the facilities at Ridley Place.

An audit of existing formal and informal boat launching facilities within the Shire is presently being undertaken with a view to rationalisation. This will be achieved by upgrading required boat ramps and closing those which are contributing to unnecessary environmental impacts along the foreshores and banks of the Shire's water ways.

Strategy	Implementation
Upgrade Ridley Place boat launching facilities to enable more efficient use.	Completed as part of the Ridley Place foreshore re-development.

3.10.6 Pedestrian and Cycle Paths

In order to reduce reliance on motor vehicles and to encourage a connected, healthy and active community it is important that the Shire continues to invest in establishing a high quality and safe pedestrian and cycle network in all localities throughout the Shire, but particularly where vehicle traffic congestion is an issue. The network should endeavor to provide safe and efficient connections linking both recreational and commercial nodes.

The Shire also has a variety of destinations including foreshores and naturally vegetated areas adjacent to townsites that would be more widely utilised if the pedestrian and cycle networks were upgraded. The organisation *Healthy Spaces and Places* produces a guide containing design principles to support communities to be healthy through quality urban design and should be used as a reference by the Shire.

Strategy	Implementation
Continue to promote a healthy built environment by investing in pedestrian / cycle paths to increase connectivity within and between townsites.	Consider using funds from developer contributions to connect existing paths / cycleways and promote them as a safe and healthy alternative.

3.11 Local Scheme Reserves

There are a variety of landholdings within the Shire which are "Reserved" and include Council and State Government owned land and privately owned properties. Under DPS No. 1, reserves serve a number of different purposes including "Recreation", "Railway", "Public Purposes" and "Important Regional Roads" amongst several others. Importantly, GBRS reserves are not to be overridden by LPS No.2 reserves.

It is noted that under Scheme Amendment No. 63, a "Reserve for Conservation" was introduced for the South Binningup locality. It is considered that there are many reserves currently Reserved for "Recreation" throughout the Shire which should also be included in this newly created "Conservation" reserve category. This would clearly distinguish between landholdings which are specifically developed for recreation such as parks and sports grounds and other areas which contain significant remnant vegetation and/or wetlands.

Furthermore, DPS No. 1 also contains the reserve category "Reserve for Wetland Protection" which is considered to be under-utilised in the Scheme. Many of the river and wetland buffers in the Shire are also currently reserved for "Recreation". An audit of all reserves is considered necessary to accurately classify them according to their primary function.

It is accepted that conservation reserves and wetland protection reserves may also be used for passive recreation. However, it is considered that a set of management criteria should be established to ensure these reserves are sufficiently managed from an environmental perspective including weed control, fire management, fencing and pedestrian/cycling networks.

In addition to the above, it is also considered appropriate to clearly identify cemeteries within the Shire. Currently these are identified as "Other Community", however in order to be consistent with the Model Scheme Text, it is recommended the Public Purpose reserve "Cemetery" is introduced into the LPS No. 2.

Strategy	Implementation
Audit all reserves in the Shire to determine the appropriate category, particularly Recreation, Conservation and Wetland Protection.	Include revisions in LPS No. 2 with appropriate management provisions.
Identify applicable landholdings to be categorised as "Reserve for Conservation".	Undertake review of all reserves in the preparation of LPS No. 2.
Introduce a Public Purpose Reserve "Cemetery" in LPS No. 2.	Include in LPS No. 2.

3.12 Constraints

3.12.1 Environmental Constraints

3.12.1.1 Flood Prone Areas

The GBRS *Floodplain Management Policy* contains floodplain mapping relevant to the Australind area, and is generally applicable to land within 200m of other watercourses for which a floodplain has not been defined (refer to Map 2a and 2b).

The Strategy Maps illustrate the flooding potential of the Collie, Brunswick and Wellesley Rivers and the Leschenault Estuary, including the Cathedral Avenue locality. The GBRS Policy recommends all affected land be defined in LPS No. 2 as being within a "Special Control Area" with specific provisions controlling development in these areas, which may include, but is not limited to, setbacks and finished floor levels.

The Shire recognises the issue of climate change and the potential for sea level increases as identified under SPP 2.6 *State Coastal Planning*. In this regard, the Shire is committed to working with the Peron Naturaliste Partnership with a goal of establishing an appropriate planning framework to adequately deal with these matters into the future.

The Shire completed its "Coastal Hazard Risk Mapping and Adaptation Plan" (CHRMAP) for the entire coastline in 2016 and the CHRMAP was adopted in February 2017. Appropriate Scheme provisions will be included within LPS No. 2 to provide guidance on the best way to manage (defend or retreat) coastal infrastructure and areas of future development.

In June 2017, the Shire adopted a Geophysical Assessment associated with the Binningup coastline.

Strategy	Implementation
Flood prone areas for the Australind area as indicated in the GBRS Floodplain Management Policy be defined in LPS No. 2.	A Special Control Area to be included in LPS No. 2 and Strategy Part 2 and appropriate scheme provisions are to be established for development in these areas in accordance with the GBRS Floodplain Management Policy.
Spatially define flood prone areas for the Collie, Wellesley and Brunswick Rivers which are not included in the GBRS policy.	Create Special Control Areas if deemed appropriate for land located within 200m of a watercourse with provisions to be included in LPS No. 2.
Spatially define (Coastal Hazard Risk Mapping and Adaptation Plan) coastal areas which are prone to sea level increases and include provisions within LPS No. 2 to ensure development is undertaken accordingly.	A Special Control Area to be included in LPS No. 2 and appropriate scheme provisions are to be established for development.

3.12.1.2 Bush Fire Risk Areas

In accordance with SPP 3.7 "*Planning for Bushfire Protection*" a Bushfire Hazard Assessment Report (BHLA 2015) has been prepared for the Shire which focuses on the Precinct Areas identified within this Strategy (excluding Australind, Treendale and Kingston). All future Structure Plans will be required to include fire mitigation measures addressing the known risks identified within the BHLA 2015. Management Plans for waterways, wetlands and remnant vegetation will be developed concurrently with Bushfire Management Plans to ensure that the plans align. These plans are to be implemented by the developer at the time of subdivision.

Additionally, Scheme provisions will need to be included within LPS No. 2 to make reference to the Planning and Development Regulations in regard to fire risk.

Of note, the BHLA 2015 identified that single access into the Myalup townsite via Myalup Beach Road is a significant bushfire management issue that should be given priority in any planning for the locality. SPP 3.7 and the associated Guidelines recommend a minimum of two vehicle access ways leading to two different destinations are to be available in order to ensure alternative evacuation routes are available in the event of a significant bushfire.

Strategy	Implementation
Implement the recommendations of the BHLA 2015.	Scheme provisions to be established in LPS No. 2 to control development standards dependent on the level of bushfire risk.
Second Access way required for Myalup.	Shire to liaise with private landowners and DBCA with a view to securing land for a second access way for Myalup.

3.12.2 Other Constraints

3.12.2.1 Funding of Public Infrastructure

The population of the Shire is growing at a steady rate. The increase in population places pressure on the Shire to provide additional facilities, services and infrastructure for the community. SPP 3.6 *Development Contributions for Infrastructure* recognises the challenge that local authorities face and provides mechanisms for local authorities to collect "developer contributions" to assist. SPP 3.6 sets out the principles underlying development contributions for community infrastructure and the form, content and process for the preparation of development contribution plans.

This process involves the identification of required services, facilities and/or infrastructure and the associated costs with their provision, for particular localities and establishing corresponding "developer contribution areas". New development within the designated area requires the payment by the developer of a contribution per newly created lot which is placed in a trust account for future use to provide the identified community infrastructure to that locality.

Provisions for developer contributions will be included in LPS No. 2 consistent with the provisions of the Model Provisions and SPP 3.6 to enable the Shire to collect funds to provide the services required by the community. However, prior to this occurring, the Shire will need to undertake the necessary background work to establish where developer contribution areas will apply and identify the necessary services, facilities and/or infrastructure required to service

those communities and associated costs through the development of a Developer Contribution Plan.

Strategy	Implementation
Mechanisms for developer contributions to be included in LPS No. 2.	Produce a Developer Contribution Plan in accordance with SPP 3.6. Introduce Scheme provisions in LPS No. 2 for Developer Contributions.

3.12.2.2 High-Pressure Gas Pipelines

The Shire contains corridors for the ATCO Gas Australia (ATCO) and Dampier to Bunbury Natural Gas (DBNG) Pipelines. Portions of the ATCO Pipeline corridor is located within Australind, Brunswick and Roelands with a small section in Wellesley. Portions of the DBNG Pipeline corridor traverses Yarloop, Cookernup, Uduc, Wokalup, Wellesley and Brunswick.

The WAPC's draft DCP 4.3 (Planning for High-Pressure Gas Pipelines) is therefore relevant within the Shire. The provisions of the Policy are to be considered during the preparation of LPS No. 2.

Strategy	Implementation
Due regard shall be given to the WAPC's draft DCP 4.3 (Planning for High-Pressure Gas Pipelines) when preparing LPS No. 2.	Provisions of the Policy are to be given due regard and including in LPS No. 2, where required.

3.12.2.3 Waste Water Treatment Plants and Other Buffers

In accordance with draft SPP 4.1 and the EPA Guidelines for Separation of Industrial and Sensitive Land Uses, measures and separation distances are required to be outlined in the Strategy to provide suitable separation of sensitive land uses from uses which generate off-site impacts, such as industrial areas, waste water treatment plants, priority agricultural activities and State infrastructure of regional significance.

Strategy	Implementation
Ensure suitable separation of sensitive land uses from waste water treatment plants.	Include Special Control Areas in order to manage land use conflict in accordance with draft SPP 4.1 (s.6.4 (c)).
Provide mechanisms to protect key infrastructure from land use conflict such as industrial areas, horticulture, servicing and waste water disposal infrastructure.	Consider appropriate controls within LPS No. 2 for statutory buffers around industrial areas, horticulture, service infrastructure and waste water disposal sites. Specific provisions in LPS No. 2 in accordance with EPA Guidelines and draft SPP 4.1.

4. Implementation, Monitoring and Review

This Strategy will guide the development of the Shire over the next 10 to 15 years and will also guide the preparation of the new LPS No. 2. The majority of the recommended outcomes of the Strategy will be incorporated into the new LPS No. 2. In addition, it is recommended that Townsite Strategies be prepared for the hinterland towns, such as Harvey and Brunswick. The purpose of these Townsite Strategies will be to further investigate potential employment and residential opportunities and infrastructure requirements of these towns.

The Shire considers that it is important that the Strategy remains relevant and up-to-date. As such, the Strategy will be regularly monitored and reviewed to reflect the changing State, regional and local planning objectives.

A Local Planning Scheme is required to be reviewed every five years and as such, the Strategy is best to be reviewed at this time. Notwithstanding this, a review of the Strategy can be undertaken prior to this five year period if needed.

SHIRE OF HARVEY
A Breath of Fresh Air

Shire of Harvey
Local Planning Strategy

Part 2 – Background Information Report

April 2020

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1. Introduction

1.1 Background

This Local Planning Strategy (LPS) applies to the whole of the Shire of Harvey. The Shire of Harvey is located in the South West Region of Western Australia. The Shire's principal centre Harvey is located 140km south of Perth, 36km north east from the South West's principal regional centre Bunbury.

The Shire is a diverse region consisting of 42km of coastline, the urbanised locality of Australind, eight rural townsites, a variety of environmentally sensitive areas, a dedicated heavy-industrial park, and a thriving agricultural sector. This diversity creates a complex mixture of opportunities, constraints and community aspirations.

1.2 Purpose of Local Planning Strategy

Regulation 11(2) of the *Planning and Development (Local Planning Schemes) Regulations 2015* (Regulations) states:

"A local planning strategy must –

(a) set out the long term planning directions for the local government; and
(b) apply State and regional planning policies; and
(c) provide the rationale for any rezoning or classification of land under the local planning scheme."

The purpose of the LPS is to set out the Shire's broad vision for its municipal area. It provides the interface between regional and local planning and is increasingly seen as the means to address economic, resource management, environmental and social considerations at a strategic level.

A Strategy is usually focused on town planning outcomes which can be incorporated into a statutory Local Planning Scheme at an appropriate time. However, a Strategy can also be used to articulate a community vision and identify objectives which may be pursued through means other than the accepted planning process.

A Local Planning Strategy is therefore a tool for:

- Applying the State Planning Strategy and interpreting the framework of State and Regional Policies and Plans for local areas;
- Establishing the local government's aims for the Shire and the strategies, policies and general proposals to achieve those aims;
- Providing a planning context for the statutory provisions of the future Local Planning Scheme (LPS No. 2) and to assist the Shire in making decisions under the Scheme;
- Explaining the Shires's strategy for the area in a way which is understandable to the public; and
- Providing a basis for continuing public and private development.

This LPS for the Shire has been prepared by the Local Government pursuant to the requirements of the above mentioned Regulations under the provisions of the *Planning and Development Act 2005* (Act), and has given due regard to all relevant State and regional planning policies (Section 2).

1.3 Structure of the Strategy

The Strategy is set out into the following sections:

Part 1 – Strategy

This sets out the major characteristics and issues relevant to the future planning and development of the Shire and is set out as follows:

1. Vision and Planning Principles
2. Objectives
3. Strategic Plan which includes the Strategic and Implementation Actions and Precinct areas
4. Implementation, Monitoring and Review
5. Maps

Part 2 – Background Information and Analysis

This sets out the major characteristics of the area relevant to the future planning and development of the Shire in context of the State, Regional and Local Planning framework. Part 2 is set out as follows:

1. Introduction
2. State and Regional Planning Context
3. Local Planning Context
4. Local Profile
5. Constraints

2. State and Regional Planning Context

2.1 State Planning Strategy 2050, WAPC

The State Planning Strategy was released in June 2014 by the State Government to provide Western Australia with a strategic guide for land use planning through to the year 2050. The Strategy sets out a common vision for the State and its regions, identifies the likely changes and prepares for them and establishes the mechanisms for implementation of strategic guidance. The State Planning Strategy outlines six interrelated State planning principles intended to guide and coordinate action at all levels of government and across all agencies and are as follows:

- *Community: Enable diverse, affordable, accessible and safe communities*
- *Economy: Facilitate trade, investment, innovation, employment and community betterment*
- *Environment: Conserve the State's natural assets through sustainable development*
- *Infrastructure: Ensure infrastructure supports development*
- *Regional Development: Build the competitive and collaborative advantages of the regions*
- *Governance: Build community confidence in development processes and practices*

The Strategy further also defines the State into three spatial dimensions (sectors) that identifies their unique attributes and contributions to the State's environment, economy and urban development. These areas are defined as the North, Central and South West sectors. The Shire falls within the South West sector, which includes the Perth, Peel, South West and Wheatbelt regions. In context of the Shire, the sector identifies the following attributes and challenges:

- Bunbury is the largest population area in regional WA and is acknowledged to become the State's second CBD outside metropolitan Perth. This would present significant urban development challenges and opportunities for the residential development of the Shire in key strategic areas such as Treendale, Australind and Kingston;

- Mining, transport and agricultural industries and resources play an important part of the region's and State's economies, and needs to be protected from incompatible development and land use conflicts;

- The large majority of the sector lies within an international global biodiversity hotspot with Australia's highest concentration of rare and threatened species. Notwithstanding the need to protect our local environment, this also provides for significant and unique economic opportunities for the region;

- Protecting productive agricultural land of State and regional significance, including land suitable for intensive and/or irrigated uses; and

- Competition for land and water availability between urbanisation, industry, mining and agricultural economies.

Guiding planning principles and the challenges identified for this region in the State Planning Strategy have been used in the preparation of this Strategy.

2.2 State Planning Framework 2017, WAPC

The State Planning Framework provides overall direction in methods of growth and development throughout the State of Western Australia. The State Planning Framework Policy (Statement of Planning Policy No. 1) was gazetted in November 2017 by the Western Australian Planning Commission (WAPC) and was prepared under Section 26 of the Act.

The State Planning Framework provides general principles for land use and development and a listing of plans, policies and strategies that form the State Planning Framework, as shown in Figure 1 on page 5. The general principles of the Policy relate to:

- Protection and enhancement of the environment;
- Responding to social change and facilitating the creation of vibrant, safe and self-reliant communities;
- Assists in economic growth in accordance with sustainable development principles;
- Provision of efficient and equitable transport and public utilities; and
- Accommodating the special assets and individual requirements of each region.

The plans, policies and strategies prepared by the WAPC that have an impact on the Shire are outlined in the following sections.

2.3 State Planning Policies

The following State Planning Policies (SPP) are relevant in the preparation of this Strategy:

- SPP 1.0 State Planning Framework Policy (2017)
- SPP 2.0 Environment and Natural Resources Policy (2003)
- SPP 2.1 Peel-Harvey Coastal Plain Catchment (1992)
- SPP 2.5 Rural Planning (2016)
- SPP 2.6 State Coastal Planning Policy (2013)
- SPP 2.7 Public Drinking Water Source Policy (2003)
- SPP 2.9 Water Resources (2006)
- SPP 3.0 Urban Growth and Settlement (2006)
- SPP 3.5 Historic Heritage Conservation (2007)
- SPP 3.6 Development Contributions for Infrastructure (2009)
- SPP 3.7 Planning in Bushfire Prone Areas (2015)
- SPP 4.1 State Industrial Buffer Policy (1997)
- SPP 5.4 Road and Rail Noise (2019)
- SPP 7.0 Design of the Built Environment (2019)
- SPP 7.3 Residential Design Codes Volume 1 (2019)
- SPP 7.3 Residential Design Codes Volume 2 – Apartments (2019)

The following draft and revised State Planning Policies (SPP) are relevant in the preparation of this Strategy:

- SPP 4.1 Draft State Industrial Interface (2017)

Figure 1: Western Australian Planning Framework

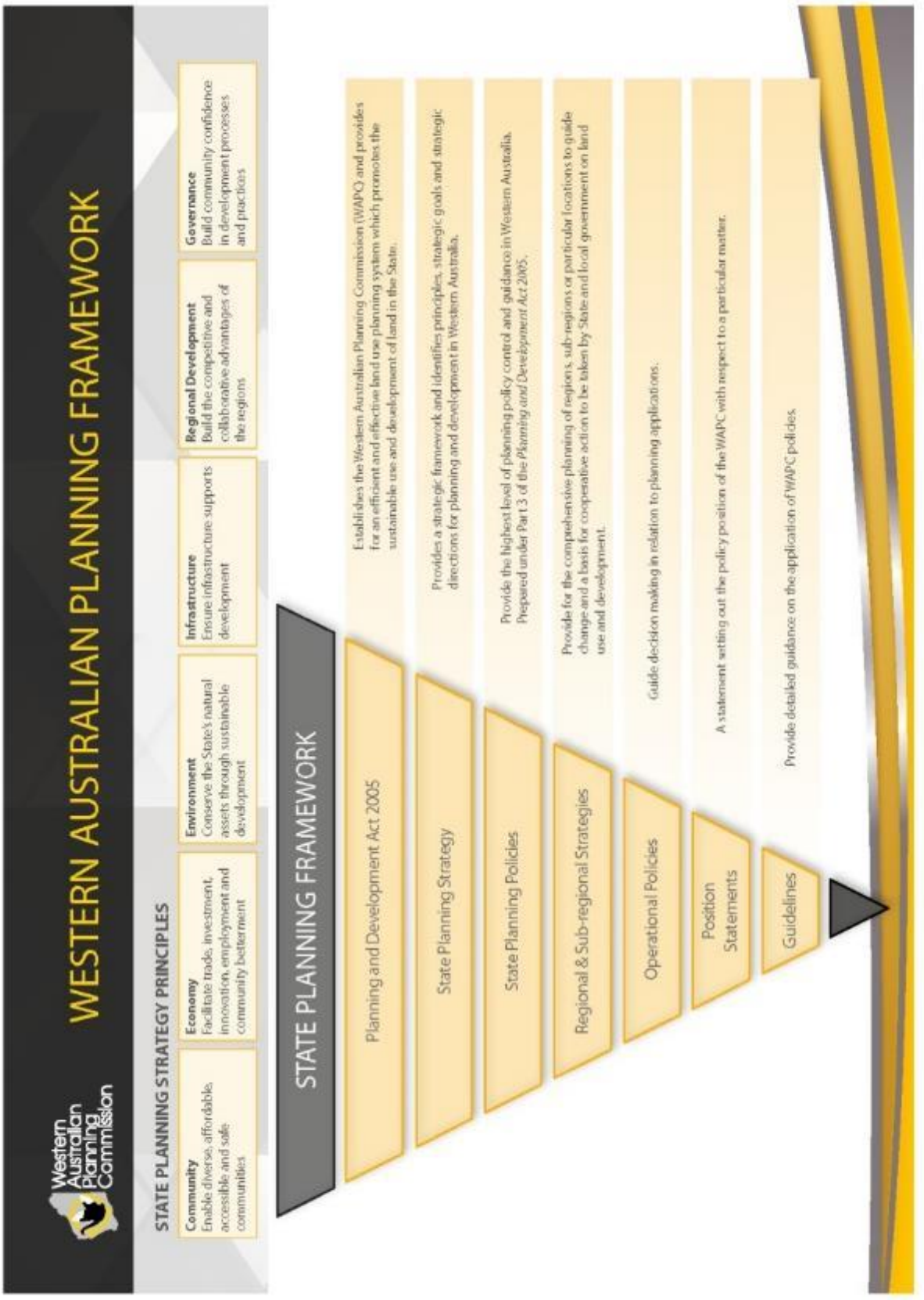


Figure 1: Western Australian Planning Framework

Source: State Planning Policy No. 1

2.4 Greater Bunbury Strategy 2013, WAPC

The Greater Bunbury Strategy (GBS) has been prepared to guide urban and regional land use planning, growth and infrastructure delivery in the Greater Bunbury region until the year 2031 and beyond. Within the Shire, the GBS identifies five 'investigation areas' which are "considered to have planning merit as they provide a logical extension of existing urban areas, bound by a defining boundary. However, each of the sites has various constraints that need to be overcome or negotiated before development can progress."

The investigation areas are:

- Area East of Treendale (major urban investigation area);
- Roelands townsite;
- Brunswick townsite; and
- Harvey townsite.

The GBS indicates the major urban investigation area East of Treendale will not be considered for development until at least the year 2021 and is subject to the "major Urban Expansion Area" south of the Collie River (Shire of Dardanup) being 'significantly developed'.

The GBS is in the process of being reviewed and will be replaced by a new document – the Bunbury-Geographe Sub-regional Strategy. The Sub-regional Strategy is expected to be advertised for the purpose of public consultation in 2020 following which it will be finalized and then inform amendments and updates to the Greater Bunbury Region Scheme and local planning strategies.

2.5 Greater Bunbury Region Scheme 2008, WAPC

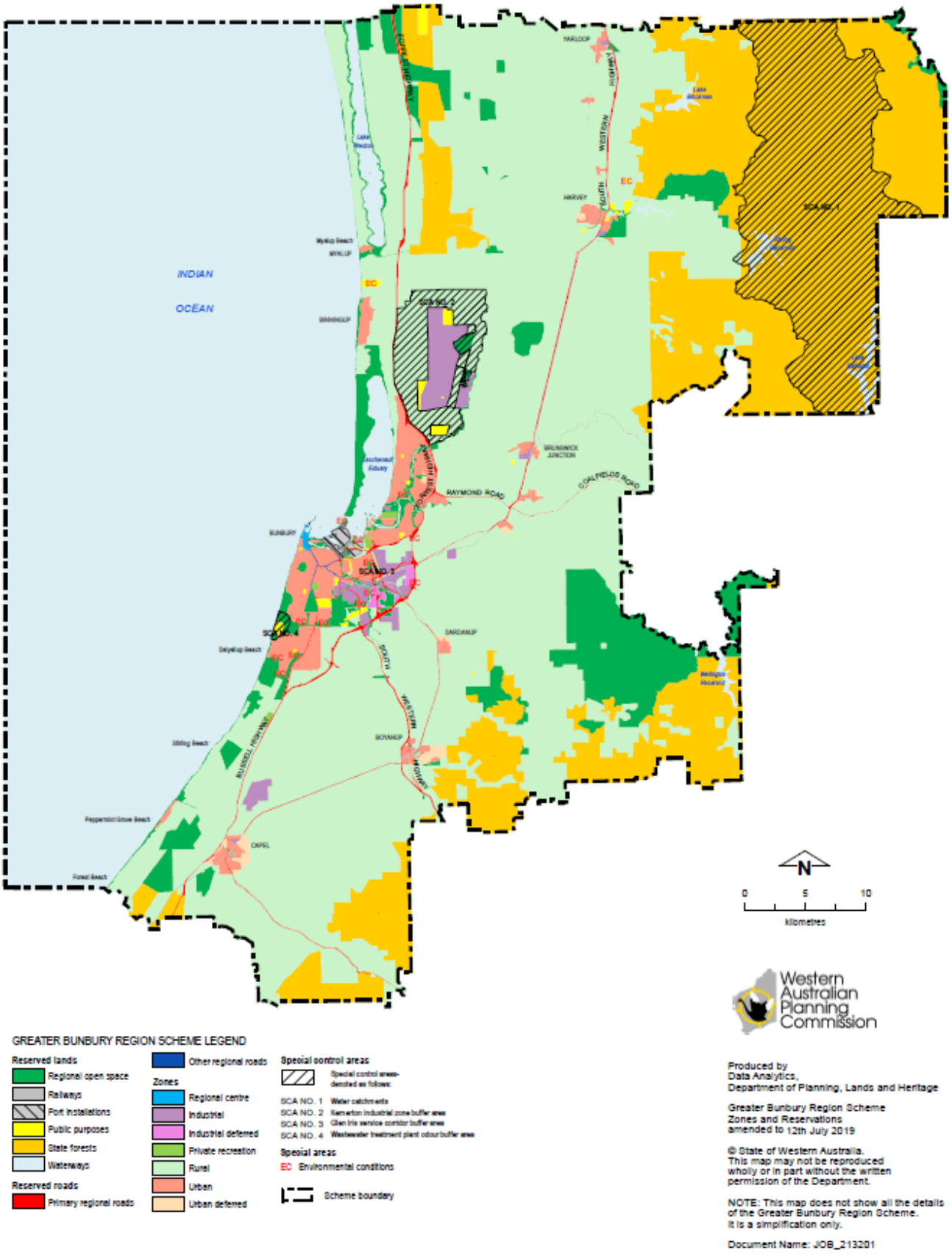
The Greater Bunbury Region Scheme (GBRS) sets out the broad land use components of the region and provides the statutory basis for planning in the Region. The GBRS provides the legislative mechanisms to secure land for regional purposes.

The Local Governments subject to the GBRS consists of the Shires of Harvey, Dardanup and Capel and the City of Bunbury. The GBRS prescribes the basic land use zones and regional reservations, which are divided into broad categories.

The GBRS also defines the locations of Special Control Areas (SCA), which in the case of the Shire, relates to SCA No. 1 – Water Catchments and SCA No. 2 – Kemerton Industrial Zone Buffer Area. The GBRS also forms the basis for associated policies, which are:

- *Floodplain Management Policy* – Relates to floodplain management of fringes of the Collie and Brunswick Rivers and the Leschenault Estuary.
- *Priority Agricultural Land Policy* – Relates to the land within the South Western Irrigation District and rural land north of Leschenault Estuary and parallel to the coast.
- *Strategic Minerals and Basic Raw Materials Resource Policy* – In general this relates to mineral sands resource areas at the toe of the Darling Scarp and in central parts of the coastal plain, as well as identifying the clay, gravel, rock aggregate, sand and limestone deposits.
- *Activity Centres for Greater Bunbury Policy*.

Figure 2: Greater Bunbury Region Scheme



Source: Department of Planning, Lands and Heritage, 2020

2.6 South-West Framework 2009, WAPC

The *South West Regional Planning and Infrastructure Framework 2015* was published in December 2015. It updates the 2009 Framework and identifies infrastructure and planning priorities for the region to achieve sustainable growth.

The Framework is a "broad planning blueprint which seeks to guide the future development of the South-West region over the next 20 years." The Framework seeks to "ensure that growth and development in the South-West region is achieved in a way that improves people's lives and enhances the unique character and environment of the region." The Framework's vision for the region is to generate "high standards of social amenity, diverse economic activities and high quality food, while preserving and enhancing the natural environment."

The Framework identifies parts of the Shire, including Australind (as part of the Greater Bunbury Area) and Brunswick, as having potential for high growth potential.

2.7 Activity Centres for Greater Bunbury Policy 2012, WAPC

The Activity Centres Policy (which is linked to the GBRS) specifies "broad planning requirements for the planning and development of new activity centres and the redevelopment and renewal of existing centres". The Policy is "mainly concerned with the distribution, function, broad land use and urban design criteria of activity centres and with coordinating their mixed land uses and infrastructure planning".

As provided in Figure 3, it defines localities within a hierarchy, dependent on their size and function. In context of the Shire, the Policy identifies the following:

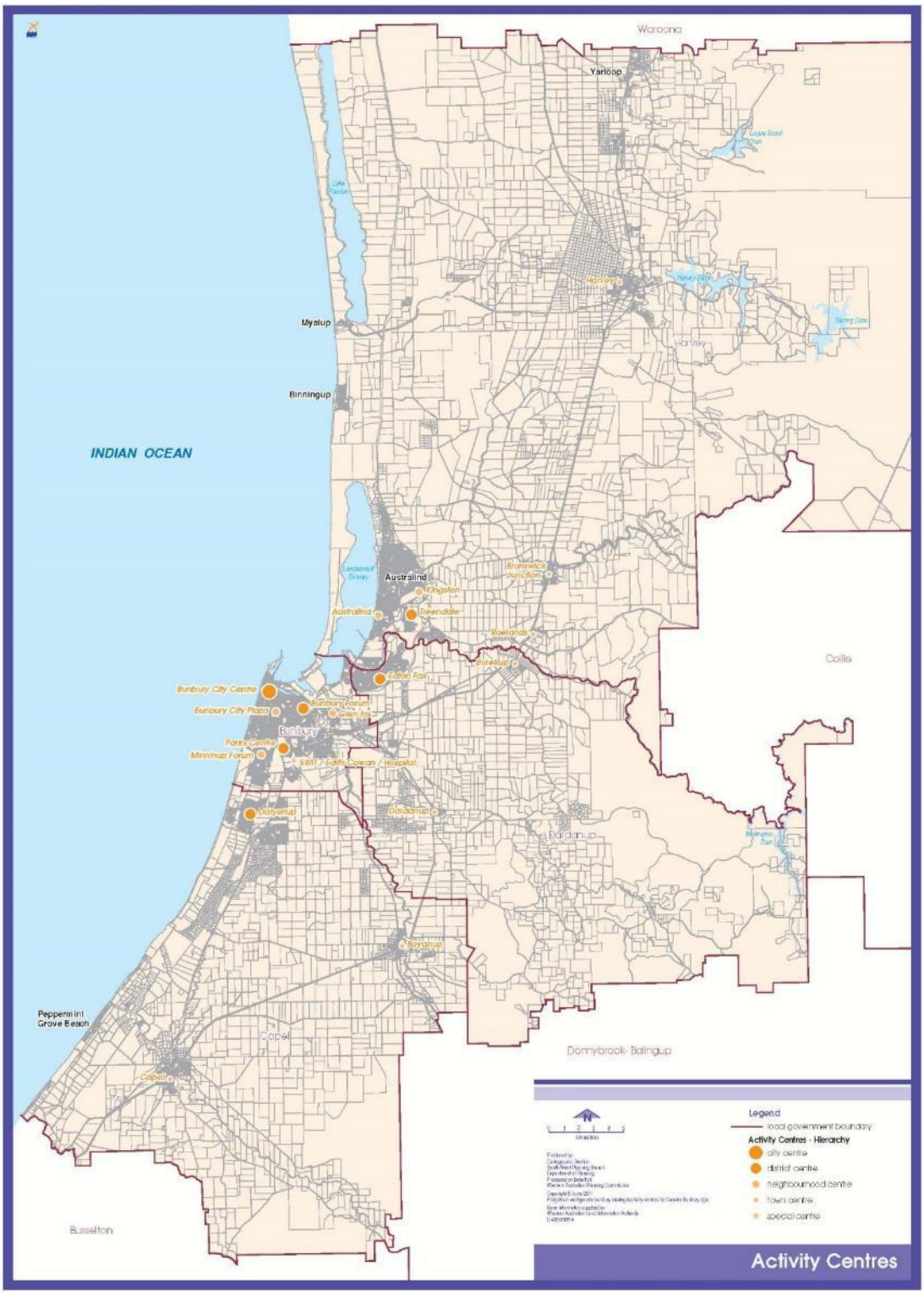
- Treendale is identified as a "district centre",
- Australind and Kingston are "neighbourhood centres" and
- Harvey, Brunswick and Roelands are "town centres".

2.8 Development Control Policies

There are numerous Development Control (DC) Policies that control the subdivision and development of land within Western Australia. Those considered most relevant to this Strategy are:

- Liveable Neighbourhoods
- DC 1.1 Subdivision of Land – General Principles
- DC 1.2 Development Control – General Principles
- DC 2.2 Residential Subdivision
- DC 3.4 Subdivision of Rural Land
- DC 4.1 Industrial Subdivision

Figure 3: Activity Centres Areas for the Greater Bunbury Region



Source: Activity Centres for Greater Bunbury Policy 2012

2.9 Guidelines

The following are WAPC guidelines which are relevant to this Strategy:

- Rural Planning Guidelines
- Guidelines for Planning in Bushfire Prone Areas
- Local Planning Manual.

2.10 National Tourism Planning Guide

The National Planning Tourism Guide – A Best Practice Approach 2011 has been prepared by the Tourism and Transport Forum and is intended to support the delivery of a long term and consistent platform to foster the strategic alignment of tourism planning policy across the nation.

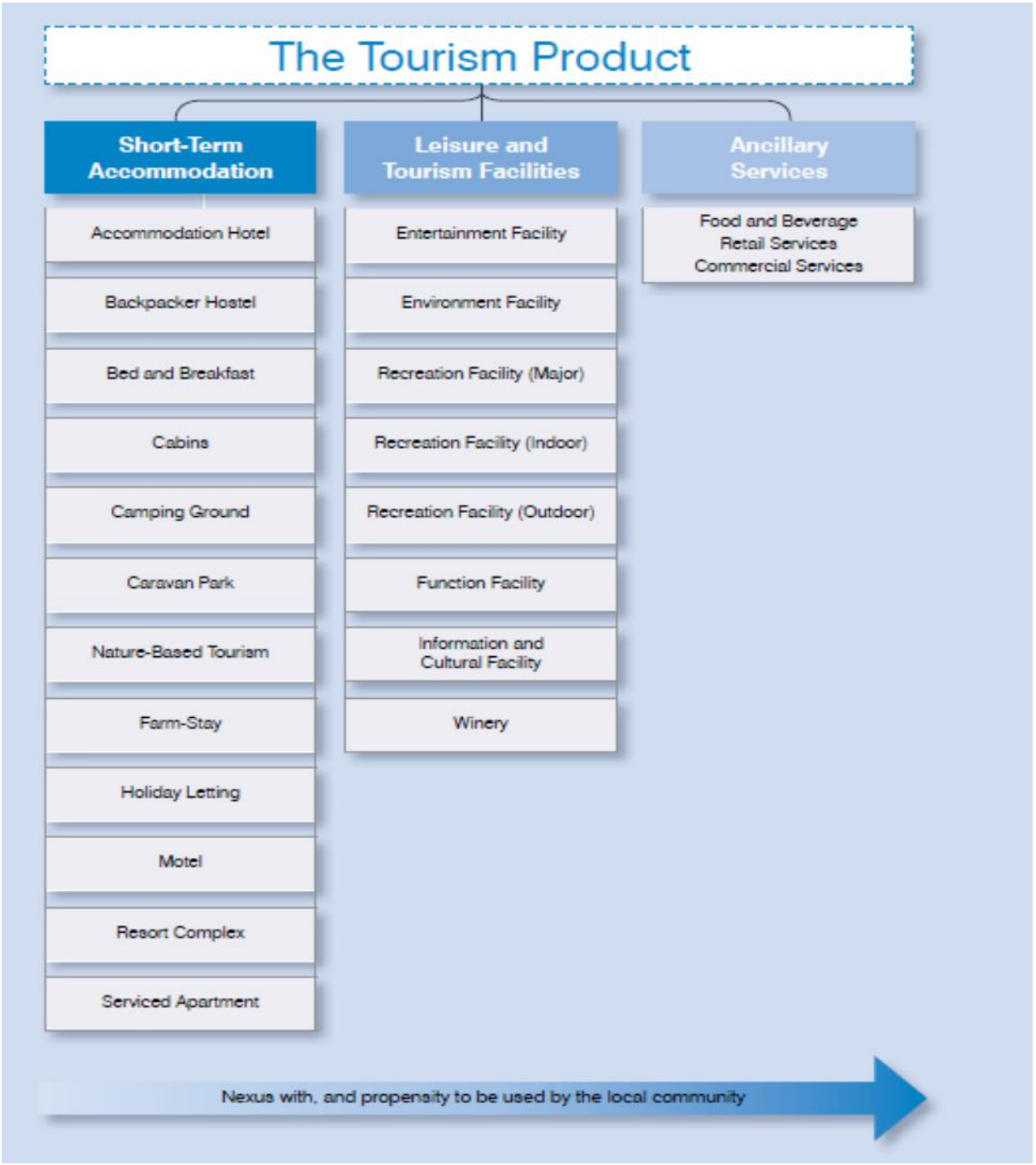
The Guide is primarily designed to:

- Ensure that planners understand the importance of tourism and take this fully into account when preparing plans and making planning decisions; and
- Ensure that planners and the tourism industry work together effectively to facilitate, promote and deliver new tourism developments in a sustainable way.

The Guide provides three distinct categories for tourism products: Short-term Accommodation, Tourist Facilities and Other Ancillary Services and provides recommendations as to how each can be supported from a planning perspective. Figure 4 outlines the range of possible land uses under each of the three categories.

The National Tourism Planning Guide (NTPG) is considered a useful tool in establishing a planning framework for tourism land use development for local governments. In order to encourage the growth of tourism in the Shire, it is considered a broad and flexible approach should be adopted which recognises the various forms that tourism development may take. This is particularly the case in our local authority where both urban and rural styles of tourist ventures are possible. It is considered that greater recognition and promotion of the tourism attributes of all localities throughout the Shire needs to be addressed.

Figure 4: National Tourism Planning Guide



Source: National Tourism Planning Guide, 2011

3. Local Planning Context

3.1 Vision and Mission Statement

The Shire is a diverse region consisting of 42km of coastline, the urbanised locality of Australind, eight rural townsites, a variety of environmentally sensitive areas, a dedicated heavy-industrial park, and a thriving agricultural sector. This diversity creates a complex mixture of opportunities, constraints and community aspirations. The Local Planning Strategy is intended to set out the Shire's broad vision in respect to balancing growth, environmental responsibilities, land use management, appropriate development control, housing affordability and the health and wellbeing of our community. The Strategy will provide a foundation by which the Shire can be protected from unwarranted development proposals and provide a strategic basis for approaching and partnering with State and Federal Government agencies to achieve outcomes which benefit our community.

In support of the values and aspirations identified within the Shire's *Strategic Community Plan 2017 – 2027*, the Shire's vision for the future from a land-use perspective is to actively pursue:

- Appropriate development of the Shire while recognising community needs and the creation and maintenance of a quality lifestyle and environment for all to enjoy;
- Effective delivery of services to ensure that the Shire is a progressive and enjoyable place to live and work; and
- A sustainable balance of rural and urban lifestyle with ecologically sustainable tourism and economic development.

The following Guiding Principles that support the land use plan of this Strategy are:

- To provide a strategic land-use plan which provides for the future in a responsible manner that reflects the aspirations of the Shire and its community, accommodates future needs and creates opportunities to enhance local attributes;
- To provide a strategic land-use plan that is consistent with State and regional planning policies, strategies, structure plans and strategic development initiatives;
- To provide a strategic land-use plan that is clear, comprehensive, accessible, informative, logical, practical, transparent and is a 'leadership' document that provides strategic planning directions for the next fifteen years and beyond; and
- To provide a strategic land-use plan that provides the basis for the preparation of the Shire's new Local Planning Scheme, to be referred to as Local Planning Scheme No. 2 (LPS No. 2).

3.2 Strategic Community Plan (2017)

The Shire's Strategic Community Plan 2017 - 2027 provides a valuable management tool to the Shire and its Staff and establishes clear goals and objectives and the measures by which they will be achieved. There was significant community consultation in the preparation of the Plan.

The Strategic Plan categorises individual outcomes under four overarching strategic objectives: Economic, Environment, Social and Civic Leadership. The summaries of the overarching objectives, the individual outcomes and key indicators that will measure the success of the outcomes is shown in Figure 5.

Figure 5: Strategic Community Plan Summary Table

	Objectives		Outcomes	Key Indicators
ECONOMIC	*To be a diverse and innovative economy supporting a range of local employment opportunities.*	1.1	Increased opportunities for diverse socially and environmentally responsible commercial, agricultural and industrial enterprises, and residential development.	Number of building licenses issued.
		1.2	Develop the Shire as a tourist destination based on the Shire's distinct characteristics and natural assets and qualities.	Visitor centre numbers.
		1.3	A range of employment, education and training opportunities that will attract a diverse workforce.	Level of unemployment. Number of education facilities.
		1.4	Essential services and infrastructure are available to support the growing community and local economy.	Number of development applications.
		1.5	Irrigation areas and water supply are protected and preserved.	Continued access to water supplies.
ENVIRONMENT	*We have a balanced respect for our natural assets and built environment, retaining our lifestyle values and community spirit.*	2.1	Heritage buildings and places are utilised, preserved and maintained.	The condition and usage rate of heritage assets.
		2.2	Town centres are welcoming, well presented and development enhances their character and value.	Community and visitor satisfaction levels. Number of documented complaints.
		2.3	Land use provisions within the rural, industrial and urban areas reflect current and future needs.	Number of development applications.
		2.4	Natural assets and public open spaces are accessible, well utilised and managed.	Community and visitor satisfaction levels. Number of documented complaints.
		2.5	Waste recovery will minimise environmental impacts.	Quantity of waste (recyclables) diverted from landfill.
		2.6	Local heritage, lifestyle and eco-systems are protected and promoted.	Progress to implementation of relevant plans.
		2.7	Forests, rivers, coastline, wetlands and estuary are valued, protected and managed.	Progress to implementation of relevant plans.
		2.8	Activities to mitigate the impacts of climate change are supported.	Number of environmental related initiatives implemented.

	Objectives		Outcomes	Key Indicators
Social	*A safe and welcoming community, which embraces its diversity and heritage, where everyone is valued and has the opportunity to contribute and belong.*	3.1	The community is supported by a strong volunteer base.	Number of active volunteer groups.
		3.2	A safe and healthy community with a strong sense of community pride.	Number of police incidents related to households. Number of community events.
		3.3	The history of the Shire and its rich and varied cultural heritage and natural environment is valued, respected, promoted and celebrated.	Number of community events.
		3.4	Services, infrastructure and facilities continue to meet community needs.	Number of documented complaints.
		3.5	Affordable, diverse and quality accommodation options for both residential and business use.	Number of dwellings and commercial premises constructed. Median house price.
		3.6	A local transport network that ensures equity of access across the community to a safe standard.	Length of roads and paths added. The assessed condition of roads. Progress to implementation of relevant plans.
CIVIC LEADERSHIP	*Strong civic leadership representing the whole of the Shire which engages in effective partnerships and reflects the aspirations of an engaged community.*	4.1	A long term strategically focused Shire that is efficient, respected and accountable.	Compliance with IPR framework. Adoption of Compliance Return.
		4.2	Services and infrastructure are provided with a customer focus and reflect the needs of the Shire's residents.	Number of documented complaints.
		4.3	Good business performance and quality service delivery within the regulatory framework continues to be provided.	Compliance with regulatory requirements. Progress to implementation of relevant plans.
		4.4	A well informed, connected and engaged community that actively participates.	Attendance at community meetings. Number of nominations for Council vacancies.
		4.5	The revenue needs of the Shire are managed in an equitable, proactive and sustainable manner.	Financial ratios within target.
		4.6	Effective collaboration and shared services with other Local, State and Federal Government agencies, industry and community organisations.	The level of Regional participation.

Source: Shire of Harvey Strategic Community Plan 2013

The Strategic Community Plan and the Local Planning Strategy share common goals in providing for the responsible development and expansion of the Shire whilst retaining our enviable lifestyle, protecting heritage assets and the natural environment and creating economic opportunities. The documents will work collaboratively to provide guidance in this regard.

3.3 Municipal Inventory of Heritage Places 2014

In October 2015, the Council resolved to adopt its Local Municipal Heritage Inventory 2014. The inventory identifies approximately 235 places located throughout the Shire which are considered to possess cultural and heritage value to the community. The Places with a Management Category of 1 and 2 will be considered for inclusion on the Shire's proposed Heritage List. As part of the local heritage and planning policy framework, the Shire adopted the Local Planning Policy for Heritage Places and the Local Planning Policy for the Yarloop

Heritage Area (YHA). These documents provide guidance for the assessment and appropriate determination of development applications relating to places of Heritage value. There are seven places currently listed on the State Register of Heritage Places, maintained by the State Heritage Office. These properties are listed as follows:

- Alverstoke Farm, Brunswick
- Henton Cottage, Australind
- St. Nicholas Church, Australind
- Upton House, Australind
- Harvey Agriculture College (fmr)(3rd Australian Corps Training School, No. 11 Interment Camp)
- Timber Mill Workshops, Yarloop
- St Joseph's Church, Yarloop

In January 2016, the Yarloop/Harvey/Waroona Bushfire destroyed 75% of properties within the Yarloop Heritage Area and seven properties outside the area that where identified within the Shire's Municipal Heritage Inventory. Two State registered heritage sites were also destroyed – the Yarloop Timber Workshops and St Joseph's Catholic Church, however they remain on the State Register.

In response to the fires, the YHA Policy was revoked and the Local Heritage Policy was modified removing the requirement for a planning approval for the demolition of any badly damaged structures within the YHA and the properties affected by the fire. In addition, further consultation and discussion will need to be had with the Shire and the residents of Yarloop in order to consider the future housing design and character of the area.

Greater emphasis will now be placed on ensuring proactive measures are undertaken by the Shire to interpret and recognise heritage places and encourage their conservation in the longer term.

3.4 Shire of Harvey, Local Planning Policies

The following Local Planning Policies have been considered in the preparation of this Strategy:

- 4.1.1 Town Planning Scheme No. 3
- 4.1.2 Home Occupations
- 4.1.4 Air Quality Control Guidelines
- 4.1.5 Variation to RCodes – Primary Street Setback for Grouped Dwellings in existing Areas
- 4.1.6 Residential Land Slopes
- 4.1.8 Extractive Industry Proposals within the Kemerton Locality Strategic Industrial Area
- 4.1.9 Wind Turbines in Rural Areas
- 4.1.10 Setbacks for Structures on Farming Land
- 4.1.11 Reflective Materials within a "Place of Landscape Value"
- 4.1.12 Development Guidelines – South Australind
- 4.1.13 Local Planning Policy for Heritage Places
- 4.2.6 Variations to RCodes – Outbuildings
- 4.2.9 Housing Standards and Re-located Dwellings
- 4.2.10 Special Residential Zones – Rammed Earth Construction
- 4.2.11 Leschenault, Collie River, Preston River Regional Flood Study and Brunswick River Flood Study (September 1981)

- 4.3.2 Pest Control Premises

As part of the Scheme Review process, the Shire will need to undertake an extensive Local Planning Policy review to remove any provisions or policies that are inconsistent with the State Planning Policy Framework and the outcomes proposed of this Strategy.

3.5 Shire of Harvey, Biodiversity Strategy (2011)

The Shire's Local Biodiversity Strategy is an environmental planning document prepared in 2011. The document identifies areas of significant natural value including waterways, native vegetation and sensitive coastal areas. It also provides guidance for the management and protection of Local Natural Areas on private land through the subdivision and development planning processes. The Biodiversity Strategy was updated in 2015 and the background information used to inform the preparation of the Shire's Local Planning Strategy.

4. Local Profile

4.1 Climate, Physical and Environmental Features

4.1.1 Climate

The Shire has a 'Mediterranean' climate characterised by cool wet winters and warm to hot dry summers. In summer at the Harvey townsite, the mean maximum temperature is 31.3^{0}C with the highest recorded temperature of 42.5^{0}C in February 2007.

Mean rainfall:	853 mm (2000 -2014)
Mean temperature:	Maximum 23.7^{0}C Minimum 12^{0}C

During summer the predominant wind in the mornings is from the south-east at 10-14 knots, swinging to the southwest at 20-25 knots in the afternoon as shown in Figure 6. In the winter, morning winds are light and variable but tend to swing north easterly in the afternoon.

4.1.2 Physiography

There are three main landform units within the Shire:

- *The Coastal Plains:*
  Occupy the western portion of the Shire, stretching from the Darling Scarp to the Indian Ocean. They are low and flat with a contour of Quindalup dunes parallel to the foreshore, and further inland older, more rounded and vegetated dunes. Approximately, 6 - 7 km inland, a north-south limestone ridge peaks at about 40m AHD. East of the ridge, at approximately 10m AHD, there are a series of north-south orientated wetlands. The land then gradually rises to about 40m AHD to the Ridge Hill Shelf. The Shelf is no more than 3km wide, is highly discontinuous, and largely vegetated by *Eucalyptus marginata* (Jarrah) and Corymbia calophylla (Marri), with an understorey of *Banksia*, *Casuarina fraseriana* and *Xylomelum occidentale* (Woody Pear).

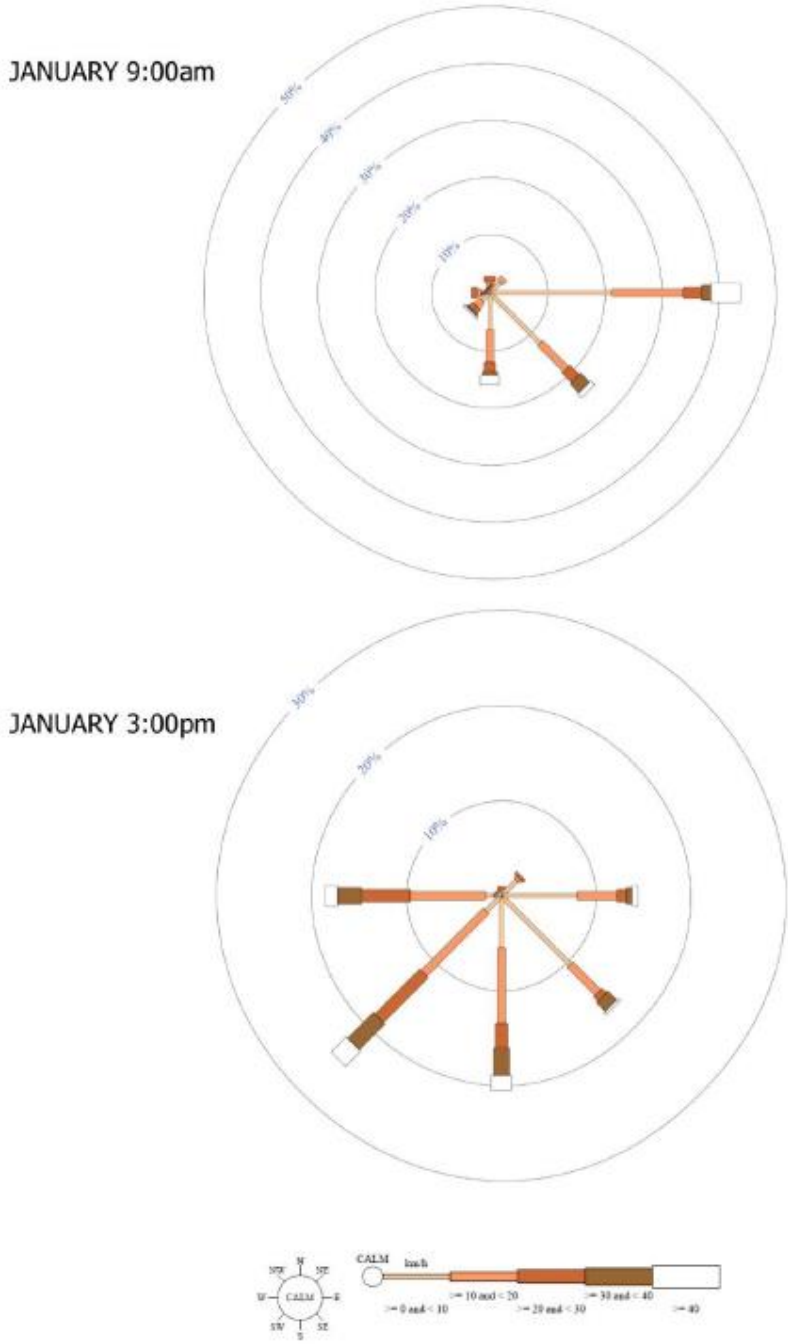
- *The Darling Scarp:*
  On the eastern edge of the Ridge Hill Shelf, the Darling escarpment runs north-south and rises steeply from approximately 100m to 200m. It is easily identified by massive

granite outcrops and numerous steep sided valleys, of which the most significant contain the Collie, Brunswick and Harvey Rivers.

- *The Darling Plateau:*
  Inland from the Scarp, the Plateau rises to approximately 300m and has a rolling topography of hills and valleys, where the hills are can be capped with gravels of precipitated ironstone.

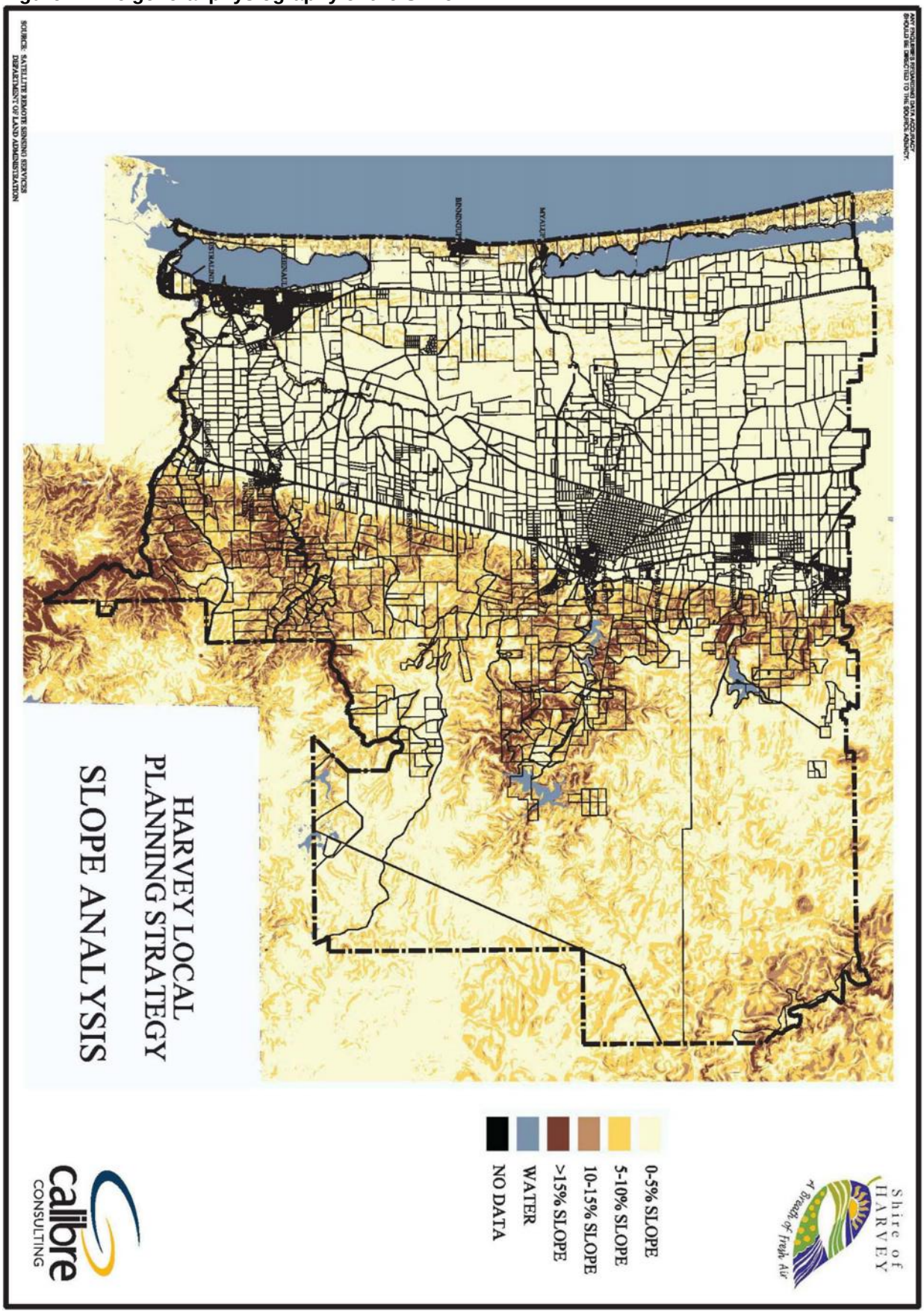
The general physiography of the Shire is shown in Figure 7.

Figure 6: Summer Wind Directions



Source: Shire of Harvey Bushfire Hazard Assessment 2015, 3

Figure 7: The general physiography of the Shire



Source: Shire of Harvey Bushfire Hazard Assessment 2015, 5

4.1.3 Geology

Within the Shire, the geology consists of two general types, which approximate the same physical areas as the Coastal Plains and Darling Plateau discussed in section 4.1.2. The Darling Scarp forms the dividing line between these two formations. The Yilgarn Block is bordered on the west by the Darling Fault and consists of Archaen granite, migmatite, gneiss and various recognisable volcanic and sedimentary rocks. The Harvey area of the Yilgarn Block is notable for its content of bauxite and laterite. The Quaternary sediment of the Perth Basin in the coastal plain area consists of marine sand and limestone, beach and dune deposits. This area contains deposits of heavy mineral sands and silica sand.

4.1.4 Wetlands

Wetland Classification

On the Swan Coastal Plain wetlands are typically surface expressions of groundwater, and along the Scarp and on the Plain as rivers and creeks. Situated between the Quindalup and Spearwood Dune Systems a significant wetland chain provides important breeding habitat for a range of waterbirds. The largest remaining natural wetlands within the Shire include Lake Preston, Benger Swamp and the Kemerton Wetlands.

The Leschenault Estuary lies within a narrow interdunal depression in the southern portion of Shire. It is significant as a nursery for fish species, and for waterbird habitat including migratory species listed under International Agreements. The Collie River system, of which the Wellesley and Brunswick Rivers form part, flows into the Leschenault Estuary.

In the north of the Shire within the Peel Region the Harvey River is one of the major systems contributing to the Peel-Harvey Estuary. The Geomorphic Wetlands Swan Coastal Plain dataset indicates that a variety of wetlands are located within the Shire boundaries. This dataset was originally digitised from the 1996 report, *Wetlands of the Swan Coastal Plain Volume 2B Wetland Mapping, Classification and Evaluation: Wetland Atlas* (Hill et al.). It shows that basin wetlands including lakes, damplands and sumplands are largely concentrated to the west of the Swan Coastal Plain with most of the eastern portions of the plain being low-lying, palusplain wetlands (seasonally waterlogged, flat) (Figure 8).

Table 1 provides the area covered by each natural geomorphic wetland type within the Shire boundaries based on this dataset.

Table 1: Area of Geomorphic Wetland Type

Wetland Type	Area (hectares)
Lake	2,475.32
Sumpland	5,658.94
Dampland	3,311.26
Palusplain	31,077.23
Paluslope	181.81
Estuary - peripheral	665.34
Estuary – waterbody	2,347.85
Floodplain	741.91
TOTAL	**46,459.66**

Source: Wetlands of the Swan Coastal Plain Volume 2B Wetland Mapping, Classification and Evaluation: Wetland Atlas

Current and change in land uses including the clearing of native vegetation and the associated substantial modifications of the natural landscape have resulted in altered drainage patterns of the wetlands of the Swan Coastal Plain. The condition of remaining wetlands within the Shire varies between being in relatively natural condition to being substantially cleared and modified.

Management Categories

The Department of Biodiversity, Conservation and Attractions (DBCA) assign each identified wetland or portion of wetland, a management category (refer to Table 2). The objectives for each management category as described by the DBCA are presented in Table 3.

Table 2: Area of Wetland Assigned to each Management Category

Management Category	Area (hectares)
Conservation	9,243.87
Resource Enhancement	879.86
Multiple Use	36,514.47

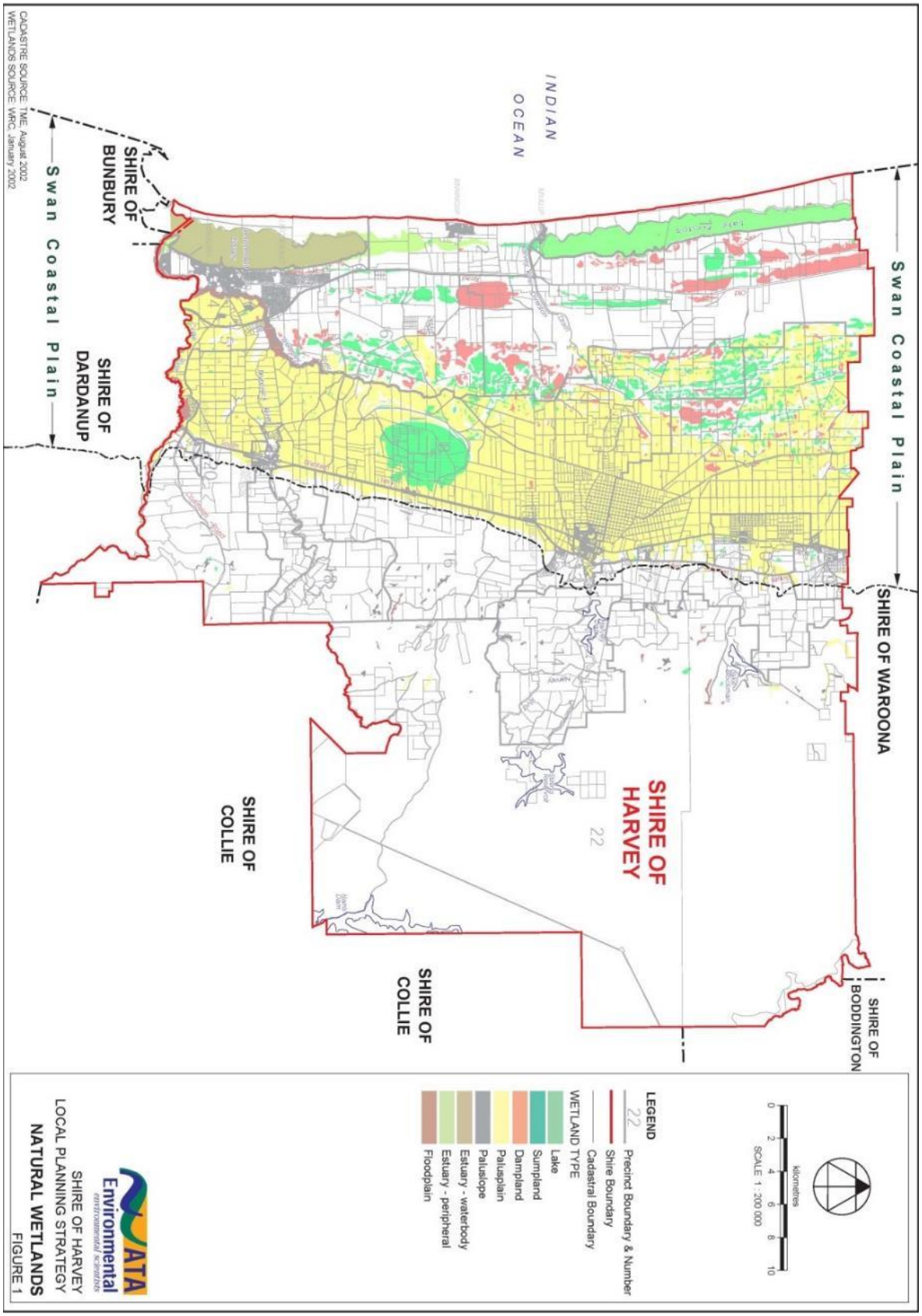
Source: Department of Parks and Wildlife 2017 (adapted from Environmental Protection Authority 2008)

Table 3: Wetland Management Categories and objectives applied to the Swan Coastal Plain (adapted from Environmental Protection Authority 2008)

Management Category	Management Category	Management Objectives
Conservation	Wetlands support a high level of ecological attributes and functions.	**Highest priority wetlands.** Objective is to preserve and enhance the existing conservation values of the wetlands through various mechanisms including: • reservation in national parks, crown reserves and State owned land • protection under Environmental Protection Policies • wetland covenanting by landowners. No development or clearing is considered appropriate. These are the most valuable wetlands and it is expected that lead government organisations will oppose any activity that may lead to further loss or degradation.
Resource Enhancement	Wetlands which may have been partially modified but still support substantial ecological attributes and functions.	**Priority wetlands.** Ultimate objective is to manage, restore and protect towards improving their conservation value. These wetlands have the potential to be restored to Conservation category. This can be achieved by restoring wetland function, structure and biodiversity. Protection is recommended through a number of mechanisms.
Multiple Use	Wetlands with few important attributes and functions remaining.	Use, development and management should be considered in the context of ecologically sustainable development and best management practice catchment planning through landcare.

Source: Department of Parks and Wildlife 2017 (adapted from Environmental Protection Authority 2008)

Figure 8: Location of Geomorphic Wetland Type within the Shire of Harvey



Source: Wetlands of Swan Coastal Plain Volume 2B

International Significant Wetlands

The Shire contains wetlands of international significance. The Peel-Yalgorup System, which extends through the Local Government Authorities of Mandurah, Waroona and Harvey, is listed under the Ramsar Convention (1971).

The System includes the Peel Inlet, the Harvey Estuary, the adjacent Mealup and McLarty Lakes, and the Yalgorup Lake including Lakes Clifton and Lake Preston, and is one of the most important areas for waterbirds in south-western Australia. The Peel-Harvey Estuary is also one of the largest shallow estuaries in the south west and supports substantial areas of salt marsh.

In addition, several Shire wetlands are identified as supporting migratory birds listed under agreements between Australia and Japan and/ or China and therefore are significant at an international level. These include Yalgorup Lakes, Benger Swamp and Leschenault Estuary.

National Significant Wetlands

Waterways and wetlands of national significance includes those identified in The *Directory of Important Wetlands in Australia'* (Australian Nature Conservation Authority, 1996) and listed on the Register of National Estate by the Australian Heritage Commission. Within the Shire, several wetlands are considered to be of national significance, including:

- *Benger Swamp*
  Located to the south-west of the Harvey town site this large freshwater wetland is highly modified but is well-vegetated and considered important for birds in Western Australia
- *Brunswick, Collie and Wellesley Rivers*
  This encompasses the Brunswick River downstream from Brunswick Junction, the Wellesley River downstream from about 1km north of its intersection with Wellesley Road, and the Collie River from its mouth to approximately 4km upstream.
- *Cathedral Avenue Wetlands*
  These wetlands are located on the western and northern edges of the Leschenault Estuary and form part of the Leschenault Estuary wetlands, which are recognised as important for recreation and bird life
- *Yalgorup Lakes System*
  This system is located near the coast, north and east of Myalup, and includes Lake Clifton and Lake Preston, which are naturally-saline coastal lakes with a hydrology that includes several types of salinity regimes.

Regional Significant Wetlands

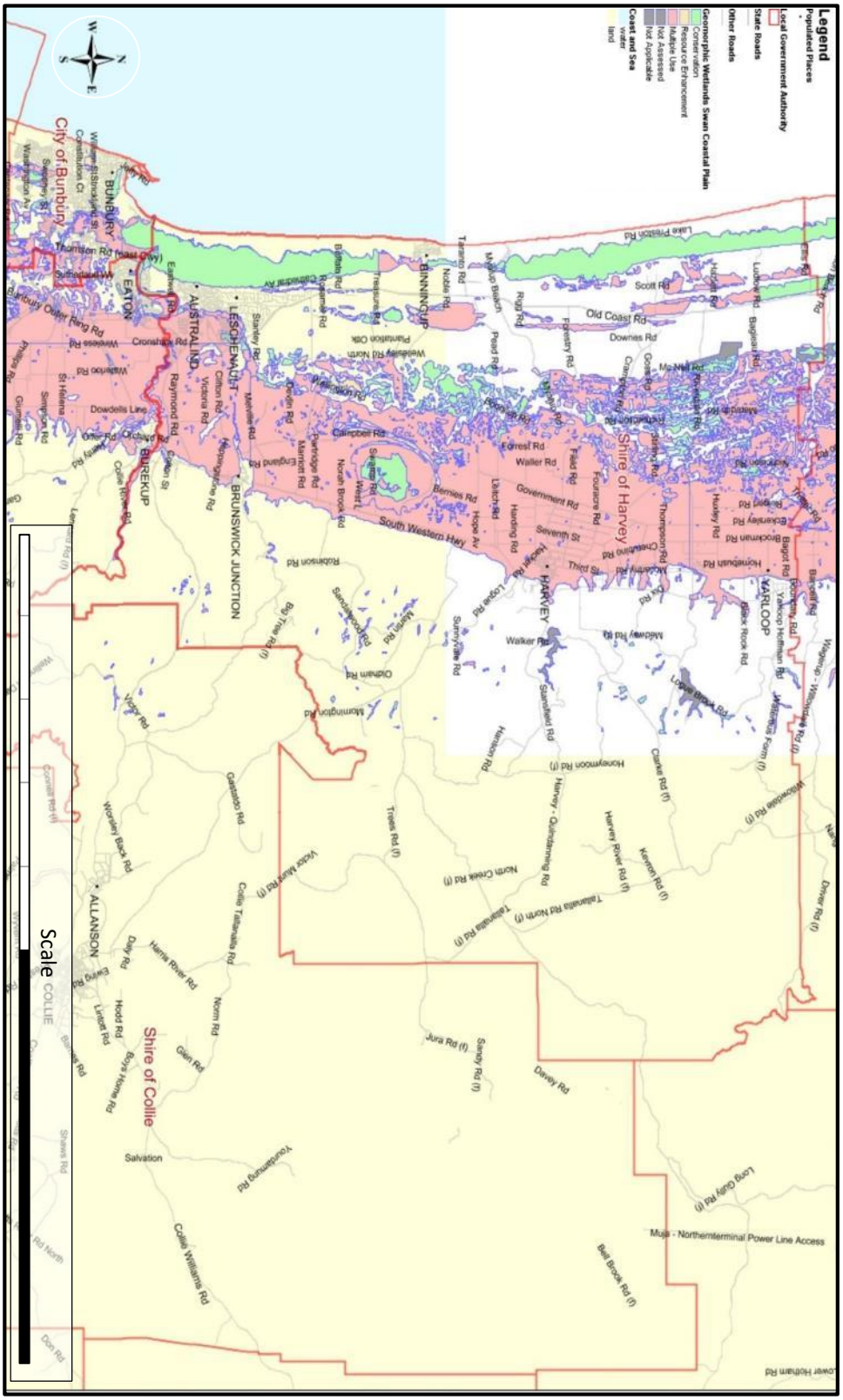
In accordance with the Western Australian, Environmental Protection Agency's (EPA) recommendations, the Greater Bunbury Region Scheme (GBRS) defines regionally significant wetlands as:

- Gazetted by the *Environmental Protection (Swan Coastal Plain Lakes) Policy 1992 (EPP)* – revoked 20 November 2015.
- Listed for protection by international agreements including Ramsar Convention on Wetlands (Ramsar); Japan-Australia Migatory Bird Agreement (JAMBA) and China-Australia Migratory Bird Agreement (CAMBA); and
- Listed in the *Directory of Important Wetlands in Australia* by Australian Nature Conservation Authority (1996).

Within the GBRS there were approximately 230 lakes listed under the former Swan Coastal Plain Lakes EPP. A significant portion of these protected wetlands occur within the Shire, and are mostly concentrated in north-south chain that lie alongside the Forrest Highway and further inland within Bassendean Sands. Notable wetlands such as Lake Preston and Benger Swamp and several wetlands associated with or close to the Collie and Brunswick River systems are included.

Wetlands listed under international agreements and in the Directory of Important Wetlands in Australia are discussed in the preceding sections. Wetlands assigned a Conservation management category can also be considered regionally significant. Conservation Category Wetlands include those wetlands listed under international agreements, national publications and regional policies as per preceding sections. They include wetlands that retain a high level of natural attributes and/or important fauna habitat, and therefore might be significant at a regional scale.

Figure 9: The conservation category wetlands.



Source: Environmental Planning Tool 2017

4.1.5 Flora

Background and Previous Studies

Early floristic maps of the south-west of WA were based on black and white aerial photography and knowledge of the relationship between the woody vegetation and the underlying site conditions. By 1970, this photo-interpretation mapping covered the entire forest region to the stage where it could be used by Smith (1972, 1973, 1974), Heddle *et al.* (1980) and Beard (1981) in association with their own vegetation mapping work (Mattiske Consulting Pty Ltd, 1997).

Heddle *et al*. (1980) mapped the Darling System at a regional Vegetation Complex level based on the relationships between the soils, landform units and defined plant communities. The study defined the vegetation complexes in relation to the landform-soil units, as determined by Churchward and McArthur (1980), and, which where relevant, to the average annual precipitation recordings.

In 1981, Beard prepared vegetation mapping for the south-west of WA which included the entire Shire of Harvey municipality. Beard's mapping was combined with the earlier maps prepared by Smith to form the Swan Vegetation Map 1:1,000,000, however Beard included not only the residual vegetation but potential vegetation in areas cleared for agriculture. Beard's mapping was based on structural changes in the vegetation with reference to natural regions, climate, geology, geomorphology and human influences.

Mattiske Consulting Pty Ltd and Havel Land Consultants (1998) extended the mapping prepared by Heddle *et al*. (1980) to encompass the land contained within the Regional Forest Agreement area (RFA). The maps depict the projected pre-1750 distribution of vegetation complexes using current distribution on cleared land and extrapolated interpretation to cleared land using pockets of remnant vegetation and information from soil and landform systems. The RFA maps cover a portion of this Reports study area from the base of the Darling Plateau inland.

In 1996, Mattiske Consulting Pty Ltd was commissioned by the Shire to prepare a Bushland Management Plan to enhance the management and conservation of bushland reserves within the Shire (Mattiske Consulting Pty Ltd, 1996). The Plan located, mapped and prescribed the land use and conservation value of reserves within the Shire. This value was based on a number of criteria including vegetation condition, presence of significant flora, boundary to area ratio, vegetation associations, adjoining land uses, dieback presence, and community values. The Plan identified management issues for each reserve and further study recommendations.

As a result of the recommendations Mattiske Consulting Pty Ltd (1998) was engaged to undertake flora surveys in the reserves identified as being in very good or better condition. A total of 9 reserves were assessed and key management directions were presented.

Vegetation Types and Complexes

The Shire is located within the Darling System of the South-West Botanical Province. According to Mattiske (1998), in biological terms, the Darling System has several distinctive features which are well recognised and include the predominance of sclerophyllous shrubs and overstorey species.

Within the Shire the changes in vegetation structure and composition are characterised by two distinct landforms: the low relief of the Swan Coastal Plain in the western portion and the

lateritic uplands of the Darling Plateau in the eastern region. Likewise, the vegetation of the Swan Coastal Plain is reflected in the transition of soils and landforms from the Darling Plateau uplands, westward to the coast.

- The erosional soils immediately west of the Darling Scarp support Woodlands of *Corymbia calophylla* (Marri) and *Allocasuarina fraseriana* (Sheoak).
- The Bassendean Dune system, which lies further east, consists of low Woodlands dominated by *Banksia attenuata, B. menziesii* and *B. grandis* on grey leached sands.
- The yellow sands of the Spearwood System in the central region of Swan Coastal Plain are dominated by *Eucalyptus* Woodlands of *Eucalyptus gomphocephala* (Tuart) and *Eucalyptus marginata* (Jarrah).
- The Quindalup Complex stretches along the coastal margin and consists of calcareous sands which support a mixture of heath and shrubland communities.

Numerous rivers, drainage courses and swamps dissect the land systems of the Swan Coastal Plain and support a diversity of vegetation associations dominated by *E. rudis* (Flooded Gum). In the eastern portion of the Shire, the Darling Plateau comprises vegetation dominated by an Open Forest of *E. marginata* and *C. calophylla*. In the valley systems (Yarragil, Murray and Helena), *Eucalyptus patens, C. calophylla* and *Eucalyptus rudis* become the dominant upper canopy species.

According to mapping prepared for the South-West region (Heddle *et al*., 1980 and Mattiske *et al*., 1998), a description of the structure and composition of the Vegetation Complexes recorded on the Swan Coastal Plain and Darling Plateau in the Shire. The vegetation complexes are shown in Figure 10. The Swan Coastal Plain vegetation complexes are described in Table 4, whilst the Darling Plateau vegetation complexes are described in Table 5.

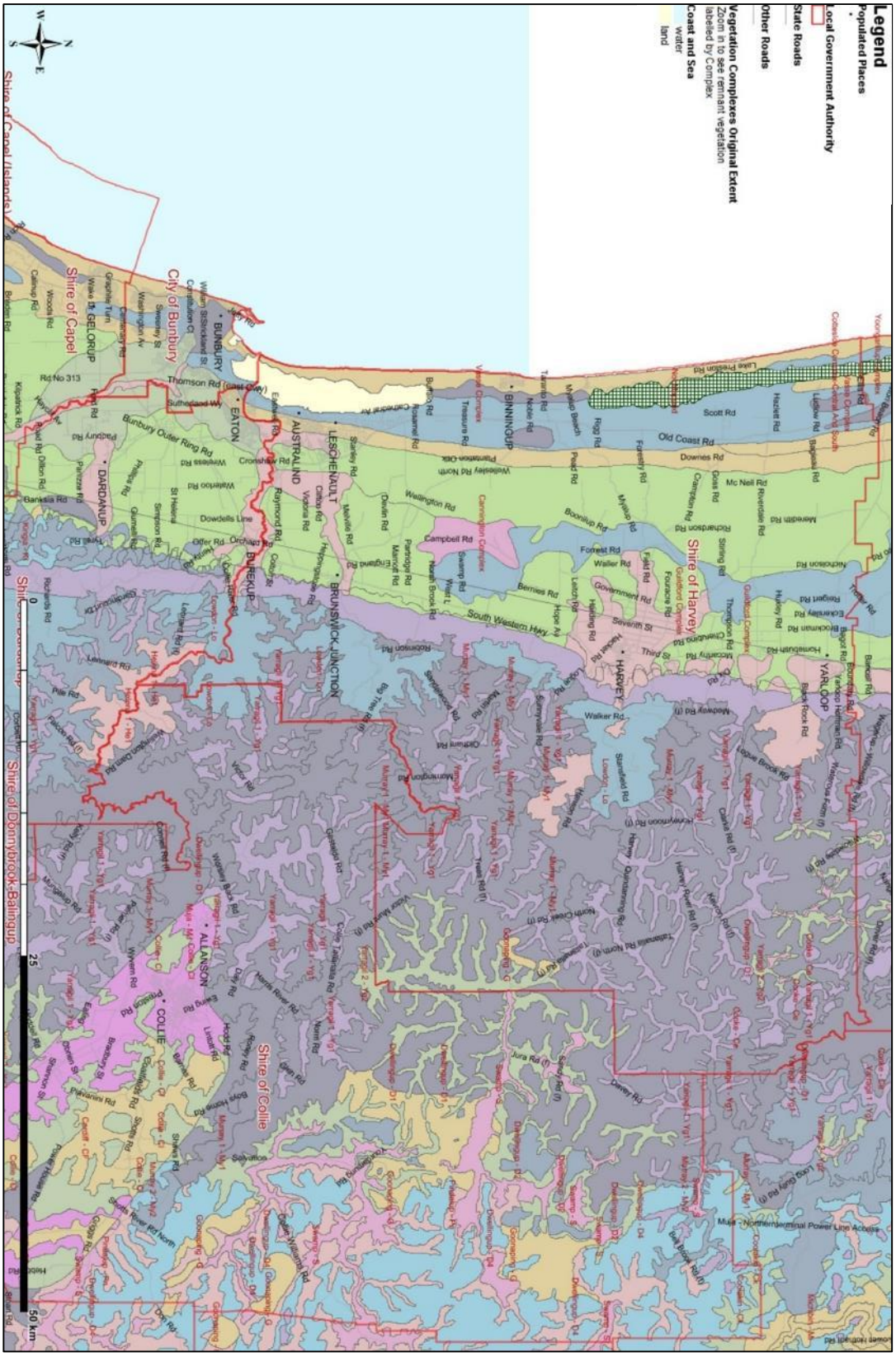
Table 4: Swan Coastal Plain

Landform	Vegetation Complex	Description
Flats	*Quindalup*	Tall shrubland of *Acacia saligna-Agonis flexuosa* and open heath on depressions amongst recent dunes in the subhumid zone.
	Cottesloe– Central and South	Includes heaths on the limestone outcrops with deeper sands supporting mosaic woodland of *E. gomphocephala* and open forest of *E. gomphocephala -E. marginata- C. calophylla*. ca-Marri.
	Karrakatta – Central and South	Reflects the cooler, moister conditions in the southern section of the Swan Coastal Plan, with the vegetation consisting predominantly of open forest of *E. gomphocephala -E. marginata- C. calophylla*. Common species include *Banksia attenuata, B. menziesii B. grandis, Allocasuarina fraseriana* and to a lesser extent *Agonis flexuosa*.
	Bassendean – Central and South	Woodland of *E. marginata - Allocasuarina fraseriana* -Banksia spp. on the sand dunes to a low-lying Woodland of *Melaleuca spp*. and sedgelands on the low-lying depressions and swamps
	Yoongarillup	This complex has strong affinities with the Karrakatta Central and South Complex and includes woodlands of *E. gomphocephala* and open forests of *E. gomphocephala -E. marginata- C. calophylla*. Understorey species include *Banksia attenuata, Hibbertia hypericoides, Macrozamia fraseri, Hypocalymma robustum* and *Jacksonia floribunda*.
	Vasse	This complex is dominated by a mixture of closed-scrub of *Melaleuca spp*. fringing woodland of *E. rudis-Melaleuca spp*., and open forests of *E. gomphocephala -E. marginata- C. calophylla*. Other species include *Melaleuca rhaphiophylla, M. preissiana, M. cuticularis, A. obesa, M. lateritia* and *Acacia saligna*.
Valleys and Flats	*Swan*	Woodland of *E. rudis-M. rhaphiophylla* with localised occurrences of low open forest of *Casuarina obesa* and *M. cuticularis* in the humid zone.
	Southern River	Open Woodland of C, *calophylla-E, marginata-Banksia spp*. on elevated areas and a fringing Woodland of *E. rudis-M. rhaphiophylla* (and occasionally *A. flexuosa*) along the streams.
	Serpentine River	Dominated by a closed scrub of *Melaleuca spp*. on the low-lying flats, with fringing woodland of *E. rudis-M.rhaphiophylla* along the streams. Common species include *Melaleuca uncinata, M. viminea, M. lateritia*, and *M. pressiana*. The uplands support woodlands of C, *calophylla-E, marginata-Banksia spp* and *E, marginata-Banksia spp*.
	Cannington	The Cannington Complex is a mosaic of vegetation from the adjacent complexes of Bassendean-Central and South, Southern River and Vasse. Essentially, the uplands support a Woodland of *E, marginata-Banksia spp* with varying understorey depending on the characteristics of the soils.
	Dardanup	Consists of a mosaic of vegetation from the adjacent complexes of Serpentine River, Southern River and Guildford. The vegetation of the uplands ranges from an Open Forest of C, *calophylla- - E. wandoo- E, marginata* to an open woodland of C, *calophylla-E, marginata-Banksia spp*. Along the creeks it is dominated by fringing woodland of *E. rudis - M. rhaphiophylla*, while on the flats subject to inundation a closed scrub of *Melaleuca spp*. grows.
Uplands	*Forrestfield*	Mosaic of open forest of *C. calophylla-E. wandoo-E. marginata subsp. elegantella* and open forest of *E. marginata subsp. marginata-C. calophylla-A. fraseriana-Banksia spp*. on the erosional spurs off the Darling Scarp to woodland of *E. rudis* on the dissecting gullies in humid to semiarid zones.
	Guildford	Mosaic of open forest of *C. calophylla-E. wandoo-E. marginata subsp. marginata* and woodland of *E. wandoo* (with rare occurrences of *Eucalyptus lane-poolei* in north) in humid to semiarid zones.

Table 5: Darling Plateau

Landform	Vegetation Complex	Description
Uplands	*Darling Scarp (DS*)	Mosaic of open forest of *E. marginata subsp. marginata-C. calophylla*, with some admixtures with *Eucalyptus laeliae* in the north (subhumid zone), and occasional *E. marginata subsp. elegantella* (mainly in subhumid zone) and *Corymbia haematoxylon* in the south (humid zone) on deeper soils adjacent to outcrops. Woodland of *E. wandoo* (subhumid and semiarid zones), low woodland of *Allocasuarina huegeliana* on shallow soils over granite outcrops, closed heath of Myrtaceae-Proteaceae species and lithic complex on or near granite outcrops in all climate zones.
	Cooke (Ce)	Mosaic of open forest of *E. marginata subsp. marginata-C. calophylla* (subhumid zone) and open forest of *E. marginata subsp. thalassica-C. calophylla* (semiarid and arid zones) and on deeper soils adjacent to outcrops, closed heath of Myrtaceae-Proteaceae species and lithic complex on granite rocks and associated soils in all climate zones, with some *E. laeliae* (semiarid), and *A. huegeliana* and *E. wandoo* (mainly semiarid to peri-arid zones).
	Dwellingup (D1)	Open forest of *E. marginata subsp. marginata-C. calophylla* on lateritic uplands in mainly humid and subhumid zones.
	Dwellingup 2 (D2)	Open forest of *E. marginata subsp. marginata-C. calophylla* on lateritic uplands in subhumid and semiarid zones.
Depressions and Swamps on Uplands	*Goonaping (G)*	Mosaic of open forest of *E. marginata subsp. marginata* (humid zones) and *E. marginata subsp. thalassica* (semiarid to perarid zones) on the sandy-gravels, low woodland of *B. attenuata* on the drier sandier sites (humid to perarid zones) with some *B. menziesii* (northern arid and perarid zones) and low open woodland of *M. preissiana-Banksia littoralis* on the moister sandy soils (humid to perarid zones).
Valleys	*Helena 1 (He1)*	Mosaic of open forest of *C. calophylla-Eucalyptus patens-E.marginata subsp. marginata* with some *E. rudis* on the deeper soils ranging to closed heath and lithic complex on shallow soils associated with granite on steep slopes of valleys in humid and subhumid zones.
	Lowdon (Lo)	Open forest of *C. calophylla-E. marginata subsp. marginata-A. flexuosa* with some *E. wandoo* and occasional *Corymbia haematoxylon* on slopes, and woodland of *E. rudis-M. rhaphiophylla* on valley floor in the humid zone.
	Murray 1 (My1)	Open forest of *E. marginata subsp. marginata-C. calophylla-E. patens* on valley slopes to woodland of *E. rudis-M. rhaphiophylla* on the valley floors in humid and subhumid zones.
	Yarragil 1 (Yg1)	Open forest of *E. marginata subsp. marginata-C. calophylla* on slopes with mixtures of *E. patens and Eucalyptus megacarpa* on the valley floors in humid and subhumid zones.
	Yarragil 2 (Yg2)	Open forest of *E. marginata subsp. thalassica-C. calophylla* on slopes, woodland of *E. patens-E. rudis* with *Hakea prostrata* and *M. viminea* on valley floors in subhumid and semiarid zones.

Figure 10: Original Vegetation Complexes



Source: Environmental Planning Tool 2017

Extent of Remnant Vegetation in the Shire of Harvey

Native vegetation covers approximately 90,131ha of the Shire or 51% of the total area of the municipality. The greatest areas of remnant vegetation occur in the eastern portion on the Scarp and as fragmented parcels in the west of the Shire. The inland regions of the Plain have been heavily cleared and the remaining areas of native vegetation are generally small and dispersed.

Table 6: Extent of Native Vegetation

	Shire of Harvey
Total Area (ha)	176,600
Total Area of Native Vegetation (ha)	90,131
%Total Vegetation Area	51%

Source: Shire of Harvey Biodiversity Strategy 2011

Very little native vegetation on the Swan Coastal Plain still exists within the Shire. This is principally due to the relatively long history of farming and agricultural activities that have occurred. The extent of remnant vegetation in the Shire is shown in Figure 11.

Tenure of Native Vegetation in the Shire of Harvey

The Shire encompasses a number of National Parks, Nature Reserves, 5(g) Reserves and other areas managed and vested with the Department of Parks and Wildlife (DPaW) for conservation, as shown in Figure 11.

The Conservation reserves have been identified by Mattiske (1996) and include Yalgorup National Park (Lake Preston), Byrd Swamp Nature Reserve, Harvey Flats Nature Reserve, Crampton Nature Reserve, Benger Swamp Nature Reserve, Falls Brook Nature Reserve, Korijekup Conservation Park and Lane Poole Reserve. In addition, a large area of land on the Darling Plateau is gazetted as State Forest – Timber Reserve which has a dual use as water catchment areas for the Harvey, Stirling and Logue Brook Dams.

Floristic Community Types

Floristic Community Types (FCT) are based on a survey of vegetation of the Swan Coastal Plain from Seabird to Dunsborough by Gibson *et al* (1994). The purpose of the survey was to determine the number and type of vegetation communities present across the southern Swan Coastal Plain, and then to assess how much remained and whether it was protected in Reserves. FCT often show relatedness of vegetation types at the regional level with a key strength of the surveys being that sites are revisited on two or more occasions during a year. The Gibson *et al* (1994) study included the western portion of the Shire and identified a number of FCTs as listed in Table 7.

Table 7: Floristic Community Types Recorded on the Swan Coastal Plain Region

Floristic Community Type	Generalised Description	Predominant Landform
3b	*Corymbia calyophylla-Eucalyptus marginata* Woodland on sandy clay soils	Pinjarra Plain
3c	*C. calyophylla-Xanthorrhoea preissii* Woodland and Shrubland	Pinjarra Plain
4	*Melaleuca preissiana* Dampland	Bassendean
5	Mixed Shrub Dampland	Bassendean / Pinjarra
9	Dense Shrubland on clay flats	Pinjarra Plain
12	*M. teretifolia* and/or *Astartea Fasicularis* Shrubland	Bassendean
17	*M. rhaphiophylla – Gahnia trifida* seasonal wetlands	Pinjarra Plain
18	Shrubland on calcareous silts	Lake Deposits
20b	Eastern *Banksia attenuata* and/or *E. marginata* Woodland	Ridge Hill/ Pinjarra
21a	Central *B. attenuata* and/or *E. marginata* Woodland	Bassendean / Spearwood
21c	Low lying *B. attenuata* Woodland or Shrubland	Bassendean
25	Southern *E. gomphocephala – Agonis flexuosa* Woodland	Spearwood
26b	Woodland and mallee on limestone	Spearwood
27	Species poor mallee and shrubland on limestone	Spearwood
30b	Quindalup *E. gomphocephala* and/or *A. flexuosa* Woodlands	Quindalup

Source: Gibson et al., 1994

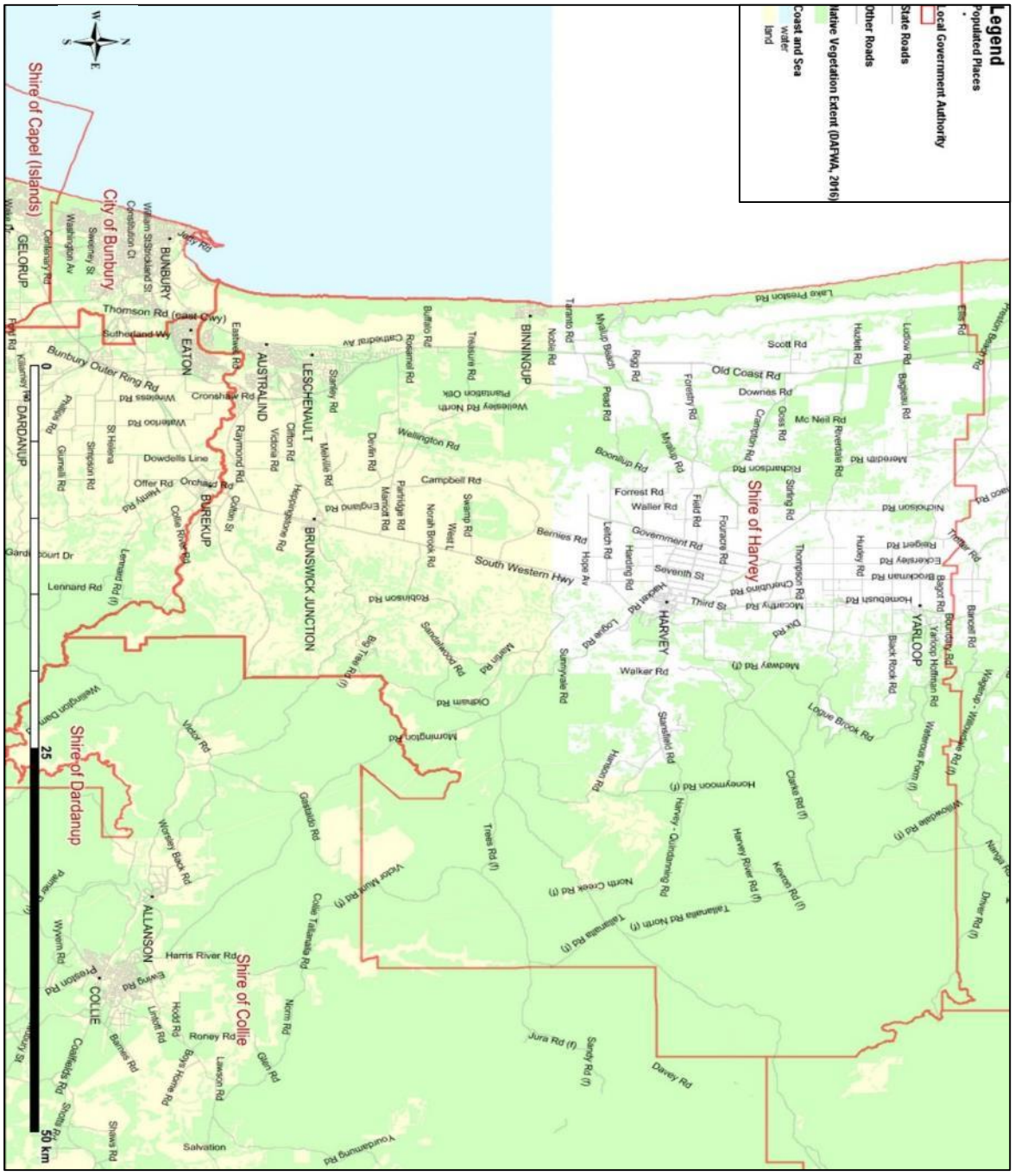
A number of FCTs have been identified as significant at the State and Commonwealth level due to poor representation and protection in the conservation estate. Table 8 lists the FCTs recorded in the Shire, which are currently considered to be Threatened Ecological Communities in the south-west botanical province according to State and Commonwealth criteria (*Environment Protection and Biodiversity Conservation Act 1999*) (EPBC Act).

Table 8: Significant Floristic Community Types (State and Commonwealth Level)

FCT	Category of Threat and Criteria met under WA criteria (DPaW, 2015)	Category under Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
3b	VN B)	
3c	CR B) ii)	EN
9	VN B)	CR
18	VN B)	
20b	EN B) i); EN B) ii)	

Note: CR – Critically Endangered, EN – Endangered, VN - Vulnerable

Figure 11: Remnant Vegetation



Source: Environmental Planning Tool 2017 (DAFWA 2016)

Significant Flora

Previous site studies conducted in the Shire by Mattiske Consulting (1996) identified Declared Rare Flora species gazetted under the Wildlife Conservation Act 1950, including four orchids – *Diuris purdiei, Diuris micrantha, Drakea elastica* and *Drakea micrantha* ms. The distribution and preferred habitat of the Declared Rare Flora identified above has been identified by CALM (1998) and is summarised as follows:

- *Diuris purdiei* Purdie's Donkey Orchid
  Known from localities between the southern metropolitan area south to Harvey townsite. There are also unverified reports of this species near Yarloop. It grows in sand to sandy clay soil amongst scattered shrub in areas subject to winter inundation.
- *Diuris micrantha* Dwarf Bee Orchid
  Known from scattered populations east of Kwinana, southwards to the Collie area. It is found in small populations in sandy clay soil, in winter-wet swamps amongst dense native sedges and scattered shrubs including Melaleuca wetland species.
- *Drakea elastica* Glossy-leaved Hammer Orchid
  This species has been recorded from one population near Cataby and many small populations between Perth and Ruabon, south of Capel. Several populations have not been seen for more than ten years and may now be extinct. It has been recorded in deep sandy soil in Banksia Woodland, in low-lying areas alongside winter-wet swamps.
- *Drakea micrantha* Dwarf Hammer Orchid
  This species occurs sporadically over a wide range from Perth to Albany. It inhabits infertile grey sands in *A. fraseriana Sheoak*d *E. marginata* (Jarrah) Woodland or Forest. It usually grows on old firebreaks and in disturbed sites where competition from other plants has been removed.

In 2012, the former Department of Environment and Conservation, now Department of Biodiversity, Conservations and Attractions (DBCA), confirmed that there are 77 locations, on private and public lands within the Shire that contain Threatened Flora and/or Threatened Communities. Species known from public lands include:

1. *Caladenia speciosa* (Sandplian White Spider Orchid) - P4
2. *Caladenia uliginosa subsp*. Patulens (Frail Spider Orchid) – P1
3. *Diuris drummondii*
4. *Drakaea elastica*
5. *Lasiopetalum membranaceum* – P3
6. *Pultenaea skinneri* (Skinner's Pea) – P4
7. *Caladenia swartsiorum* (Island Point Spider Orchid) – P1

Conclusion

The protection and assessment of vegetation communities is a primary component of this Strategy on all land tenure. The recognition and protection of remnant vegetation is important for biological diversity and ecosystem function. Biological diversity is a key environmental factor in achieving ecologically sustainable development. The Shire has significant regional vegetation communities that are recognised in this Strategy.

4.1.6 Fauna

Habitat

The GBRS Environmental Review (2000) described Regionally Significant Fauna and Habitats for Waterbirds as environmental factors relevant to the Scheme in regard to environmental impact and management. Such habitats are those listed under international agreements such as Ramsar, JAMBA and CAMBA. Regionally significant habitats within the Shire are identified as:

- Leschenault Estuary
- Yalgorup Lakes (includes Lake Preston)
- Benger Swamp

Based on analysis of remaining vegetation within the Shire, there is a range of existing fauna habitat within the Shire boundaries. Habitat loss and modification is most substantial on the Swan Coastal Plain where clearing for agricultural based land use and settlements are concentrated. Habitat remaining within the Shire includes eucalypt-dominated forest and woodlands, coastal heath and shrubland communities, *Banksia* woodland, wetlands including watercourses and estuaries, beaches, parkland-cleared woodlands and pasture.

Coastal areas and wetlands could support a range of migratory birds listed under international agreements or species listed as Migratory under provisions of the EPBC *Act 1999*.

Significant Fauna & Habitat

The southwest is an internationally recognised “biodiversity hotspot”, not only for the biological richness and uniqueness of species identified within the area but also for the level of threat (SWREL 2009). Threatened species, their preferred habitats and threatened species status in Western Australia are classified under the *Wildlife Conservation Act 1950* and the *EPBC Act 1999*. In addition, international migratory species are also protected under a number of International Agreements fulfilled executed under the *EPBC Act 1999* for which Australia is a signatory to. These agreements include the:

- Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals) for which Australia is a Range State under the Convention;
- Agreement between the Governments of Australia and China for the Protection of Migratory Birds and their Environment (CAMBA); and
- Agreement between the Governments of Australia and Japan for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment (JAMBA).

A variety of waterbirds and terrestrial bird species listed as migratory species are likely to habitat wetlands and dryland habitats in the Shire. Lake Preston, Benger Swamp and Leschenault Estuary have been identified as supporting listed Migratory species. Lake Preston forms part of the Peel-Yalgorup Wetland system, which is listed as a Ramsar site due to its significant waterbird habitat.

In 2002, there were 24 species listed on the WA Threatened Species list that are located within the Shire or are known to migrate through the area. In November 2015 that number has risen to 64 species, as shown in Table 9. The major factors that have contributed to this increased number of threatened species include:

- habitat loss and landscape fragmentation, and land use change for agriculture and development within and around the Shire;
- climate change; and
- introduced pests and invasive weed species (such as *Gomphocarpus fruticosus* (Narrow leaf cotton bush)).

In order to ensure the survival and repopulation of these threatened species and prevent further elevation of their threatened species status, there needs to be a greater emphasis on the protection of native vegetation and prevention of habitat loss. Local planning mechanisms and policy documents, such as those identified in the State Planning Policy 2.5 and the Shire's Biodiversity Strategy, can be part of this solution. The Shire's response however is only part of a multi-pronged solution and requires the collaborated efforts of Federal, State, Regional and other local government agencies. Proper management of environmental reserves and remnant vegetation is necessary in addition to an appropriate legislative and policy framework.

In Western Australia, the *Biodiversity and Agriculture Management* (*BAM) Act 2007* came into effect on the 1st May 2013 with the purpose of ensuring the protection of the agriculture and food sector, and the environment. The *BAM Act 2007* identifies invasive pests and weed species, and then further classifies the individual requirement from management to eradication. The *BAM Act 2007* is a significant piece of legislation that not only applies to Local Governments and individual landowners but also to State Government agencies. State Government agencies responsible for managing allocated crown land and reserves must effectively manage invasive pest and weed species identified under the *BAM Act 2007*.

Table 9: Significant Fauna – Threatened Species Listing

Significant Fauna Species	*WA (2002)*	*WA (2014)*	*Federal (2002)*	*Federal (2014)*	*Habitat Type*
Mammals					
Dasyurus geoffroii (Chuditch)	S1	VU	V	V	Mostly woodland/forest
Pseudocheirus occidentalis (Western Ringtail Possum)	S1	VU	V	V	Woodland/forest particularly with A. flexuosa in the understorey
Setonix brachyurus (Quokka)	S1	VU	V	V	Wetlands and watercourses in woodland/forest
Phascogale tapoatafa (Brush-tailed phascogale)	P3	VU			Woodland/forest
Isoodon obesulus fusciventer (Southern Brown Bandicoot (Quenda))	P4	P5			Woodland/forest, heath & wetlands with dense undergrowth
Betongia penicillata ogylbii (Woylie)	P4	CR		EN	Woodland/forest
Myrmecobius fasciatus (Numbat)		VU		V	
Phascogale tapoatafa ssp. (Brush-tailed Phascogale)		VU			
Macropus 35rma (Western Brush Wallaby)	P4	P4			Woodland/forest with dense shrub layer
Hydromys chrysogaster (Water Rat)	P4	P4			Watercourses
Falsistrellus mackenziei (Western False Pipstrelle)	P4	P4			Woodland/forest

Significant Fauna Species	WA (2002)	WA (2014)	Federal (2002)	Federal (2014)	Habitat Type
Isoodon obesulus fusciventer (Quenda)		P5			Scrubby, often swampy, vegetation with dense cover up to 1 m high
Macropus Irma (Western Brush Wallaby)		P4			
Macropus eugenii derbianus (Tammar Wallaby)		P5			Dense, low vegetation for daytime shelter and open grassy areas for feeding. This species inhabits coastal scrub, heath, dry sclerophyll forest and thickets in mallee and woodland.
Oceanic Mammal species					
Arctocephalus forsteri (New Zealand Fur-seal)		S4			
Neophoca cinerea (Australian Sea-lion)		S4			Onshore habitats used include exposed islands and reefs, rocky terrain, sandy beaches and vegetated fore dunes and swales. They also use caves and deep cliff overhangs as haul-out sites or breeding habitat
Balaenoptera musculus (Blue Whale)		EN		EN	
Eubalaena australis (Southern Right Whale)		VU		EN	
Megaptera novaeangliae (Hump Back Whale)		VU		V	
Birds					
Calyptorhynchus baudinii (Long-billed (Baudin's) Black-Cockatoo)	S1	EN		V	Woodland/forest (Banksia, eucalypts)
Calyptorhynchus baudinii (Short-billed (Carnaby's) Black-Cockatoo)	S1	EN		EN	Woodland/forest (Banksia, eucalypts); Plantations
Botaurus poiciloptilus (Australasian Bittern)	S1	EN		EN	Wetlands
Falco peregrinus (Peregrine Falcon)	S4	S4			Escarpments, woodland rivers, developed areas
Calidris ferruginea (Curlew sandpiper)		VU		CR	intertidal mudflats in sheltered coastal areas,
Rostratula australis (Australian Painted Snipe)		EN		EN	Shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans
Charadrius leschenaultia (Great Sand Plover)		VU		Migratory species agreements	
Calidris tenuirostris (Great Knot)		VU		Migratory species agreements	Sheltered coastal habitats, with large intertidal mudflats or sandflats.
Tyto novaehollandiae (Masked Owl)	P4	P3		V	Woodland/forest

Significant Fauna Species	WA (2002)	WA (2014)	Federal (2002)	Federal (2014)	Habitat Type
Sternula nereis nereis (Fairy Tern)		VU		V	Sheltered sandy beaches, spits and banks above the high tide line and below vegetation
Calyptorhynchus banksii naso (Forest Red-tailed Black-Cockatoo)	P3	VU		V	Forest
Ixobrychus minutus (Little Bittern)	P4	P4			Wetlands/watercourses
Thinornis rubricolis rubricolis (Hooded Plover)	P4	P4		V	Coast, coastal wetlands
Numenius madagascariensis (Eastern Curlew)	P4	VU		CR	Coast, coastal wetlands
Ixobrychus flavicollis (Black Bittern)		P1			Prefers densely-vegetated edges of fresh and coastal waterways
*Ninox connivens connivens (*Barking Owl)		P2			Open woodlands and the edges of forests, particularly C. calophylla. Roost sites are often located near waterways or wetlands.
Oxyura australis (Blue Billed Duck)		P4			Deep, permanent water or open lakes.
Tringa brevipes (Grey-tailed Tattler)		P4		Migratory species agreements	
Ardenna carneipes (Fleshy-footed Shearwater)		P4		Migratory species agreements	Mainly occurs in the subtropics over continental shelves and slopes and occasionally inshore waters
Phaethon rubricauda (Red-tailed Tropicbird)		P4			
Diomedea dabbenena (Southern Royal Albatross)		VU		V	
Diomedea exulans (Wandering Albatross)		VU		V	
Phoebetria fusca (Sooty Albatross)		EN		V	
Thalassarche cauta (Shy Albatross)		VU		V	
Thalassarche cauta cauta (Indian yellow-nosed Albatross)		VU		V	
Thalassarche melanophris (Black browed Albatross)		EN		V	
Reptiles					
Dermochelys coriacea (Leatherback Turtle)	S1	VU	V	EN	Coastal waters
Caretta caretta (Loggerhead Turtle)	S1	EN	EN	EN	Coastal waters
Morelia spilota imbricate (Southern Carpet Python)	S4	S4			Coastal heath, woodland/ forest, farmland

Significant Fauna Species	WA (2002)	WA (2014)	Federal (2002)	Federal (2014)	Habitat Type
Ctenotus delli (Dell's Skink)		P4			
Ctenotus ora (Coastal Plains Skink)		P3			
Glaphyromorphus koontoolasi (South-Western Mulch Skink)		P1			
Fish					
Carcharodon carcharias (Great White Shark)	S1	VU	V	V	Close inshore around rocky reefs, surf beaches and shallow coastal bays to outer continental shelf and slope areas
Carcharius Taurus (Grey Nurse Shark)	S1	VU	V	V	In or near deep sandy-bottomed gutters or rocky caves, and in the vicinity of inshore rocky reefs and islands
Galaxiella nigorstriata (Black-stripe Minnow)	P3	P3			Wetlands
Galaxiella munda (Mud Munda)		VU			Wetlands
Geotria australis (Pouch Lamprey)		P1			
Nannatherina balstoni (Balston's Pygmy Perch)		VU		V	Inhabits acidic, tannin-stained freshwater pools, streams and lakes in peat flats within 30 km of the coast of SW of WA, preferring shallow water, and commonly associated with tall sedge thickets and inundated riparian vegetation
Phycodurus eques (Leafy Sea Dragon)		P2			
Molluscs					
Westralunio carteri (Carter's freshwater mussel)		VU			In greatest abundance is slower flowing parts of rivers and streams that have sediments that are soft enough for burrowing and stable enough so that the mussel does not sink. It is typically found among woody debris, leaf litter and exposed tree roots along the banks of rivers
Insects					
Austromerope poultoni (Scorpionfly)		P2			Shows no apparent preference for vegetation association and occurs throughout a wide rainfall range in SW of WA.
Kawaniphila pachomai (Cricket)		P1			

Significant Fauna Species	WA (2002)	WA (2014)	Federal (2002)	Federal (2014)	Habitat Type
Pachysaga munggai (Cricket)		P3			
Synemon gratiosa (Graceful Sunmoth)		P4			
Arachnids					
Arbanitis inornatus *(Trapdoor Spider)*		P1			

Table 9 Notes
WA - Western Australia
CR (Critically Endangered) – considered to be facing an extremely high risk of extinction in the wild
EN (Endangered) – considered to be facing a very high risk of extinction in the wild
VU (Vulnerable) – considered to be facing a high risk of extinction in the wild
EX (Extinct) – there is no reasonable doubt that the last individual has died (not listed in Table 9)

S1: Wildlife Conservation Act 1950 Schedule 1- Rare and likely to become extinct
S4: Wildlife Conservation Act 1950 Schedule 4- Otherwise in need of Special Protection

P1 (Priority 1) – Poorly-known species (on threatened lands)
P2 (Priority 2) – Poorly-known species (on conservation lands)
P3 (Priority 3) –Poorly known populations (some on conservation lands)
P4 (Priority 4) – Rare, Near Threatened and other species in need of monitoring
P5 (Priority 5) - Conservation Dependent Species

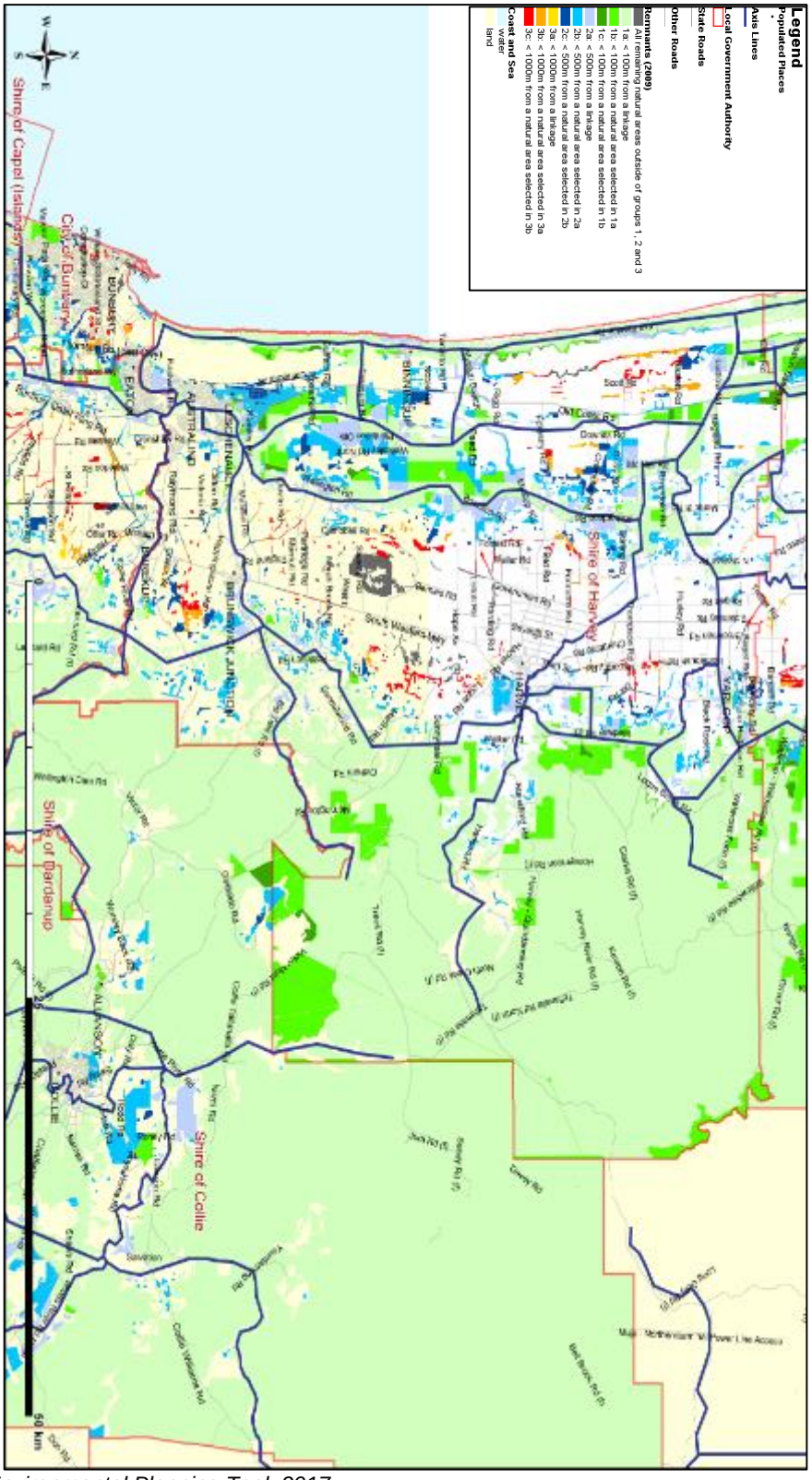
Cth – Commonwealth
C (Critically Endangered)
EN (Endangered)
V (–Vulnerable)
CD (Conservation Dependent)
E (Extinct) (not listed in Table 9)
EW (Extinct in the Wild)

South West Regional Ecological Linkages

In 2009, the Western Australian Local Government Association and the Department of Environment and Conservation (now DBCA) commissioned the South West Regional Ecological Linkages Technical Report 2009 (SWREL 2009). The purpose of the study was to identify regional scale ecological linkages in the South West region, and to provide effective recognition of these linkages in land use planning policy. The SWREL 2009 document recognises the importance of ecological linkages as an additional value to biodiversity conservation.

The ecological linkages are protected within the GBRS and will need to be incorporated into the new Scheme. Figure 12 shows the location of these ecological linkages within the Shire.

Figure 12: South West Ecological Linkages



Source: Environmental Planning Tool, 2017

4.1.7 The Land

Landform Units and Capability

The Shire has two distinct landform units, the Swan Coastal Plain and the Darling Scarp. The Darling Scarp contains areas capped with laterite with bauxite deposits, whilst the Swan Coastal Plain consists principally of sandy soils. An environmental concern is the eutrophication of catchments and in particular the Peel Harvey Inlets. Land units represent areas of similar soil, slope and drainage and therefore often exhibit similar production potential and degradation risks (Tille 1996).

Land characteristics and qualities are linked to land units. Land characteristics are soil and landform features that can be explicitly observed (qualitative estimate) or measured (quantitative during a land resource survey) (Department of Food and Agriculture, DAFWA 2008). Land qualities are estimated based on the land characteristics. Some are based on a single soil or landform characteristic such as pH. In most cases, however, a particular land quality will be based on a number of soil and landform characteristics. For example, water erosion hazard requires consideration of organic carbon content, soil texture, soil structure, soil permeability, slaking, dispersion and water repellence to estimate the erodibility of the soil; then combined with slope to determine the erodibility rating (DAFWA, 2008). Sixteen land characteristics are described in van Gool *et al.* (2005), and DAFWA has identified 22 land qualities that are broadly applicable to the most commonly encountered land uses. These include phosphorus export hazard, surface soil structure decline and susceptibility waterlogging/inundation risk.

Land quality information is used to calculate land capability classes for selected land uses. DAFWA uses five capability classes to describe the land's ability to sustain a particular use without adverse environmental effects. The calculation of land capability is based on a worst limiting factor approach (DAFWA, 2008). Individual land qualities are assigned to capability classes depending on the degree of influence each land quality has on a particular land use. The overall land capability is determined by the most limiting land quality as described in the Table below:

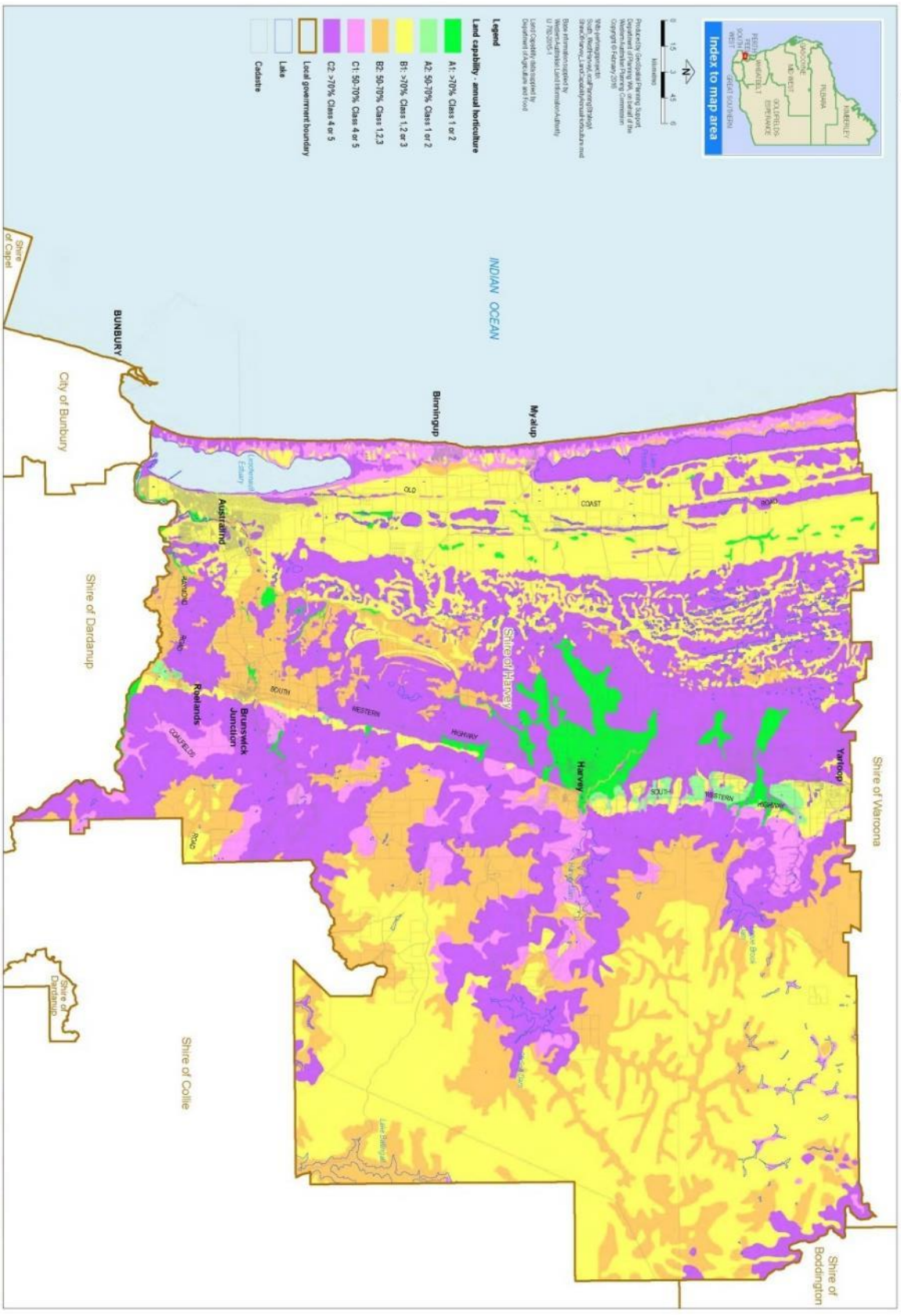
Table 10: Five classes of land capability

Class	Description
1 – Very High	Very few physical limitations present and are easily overcome. Risk of land degradation is negligible.
2 – High	Some physical limitations affecting either productive land use or risk of land degradation. Limitations overcome by careful planning.
3 - Fair	Moderate physical limitations significantly affecting productive land use or risk of land degradation. Careful planning and conservation measures required.
4 - Low	High degree of physical limitations not easily overcome by standard development techniques and/or resulting in a high risk of land degradation. Extensive conservation requirements.
5 – Very Low	Severity of physical limitations is such that its use is usually prohibitive in terms of either development costs or the associated risk of land degradation.

The key element in defining the capability of land units is its ability to sustain various land uses with minimal risk of degradation occurring on a long term basis.

Figure 13 shows the Land Capability for Annual Horticulture as this has the highest capability for most forms of agriculture.

Figure 13: Shire of Harvey Land capacity for Annual horticulture



Source: Department of Planning, 2016

Basic Raw Materials

The extraction of mineral resources and basic raw materials (BRM) is an important component of the Shire's economy and necessary to support urban development for the region. In 2012, it was estimated that 90% of all extracted basic raw material was used in residential and commercial development (Department of Planning, 2012). In 2012, it was estimated that there were 25 active extractive industries sites within the Shire. Currently, it is estimated the number of active extractive industry sites has grown to approximately 40. These sites contain a variety of materials including sand, limestone and gravel.

A study conducted by the Department of Planning examined the demand and supply of BRM within the greater Bunbury-Busselton region for 2009 and 2030. These estimates are based on population forecasts and future housing demand are shown in Table 11.

Table 11: Forecast residential construction demand by Local Government (figures shown as '000m^3)

Local Government	Limestone			Sand			Clay			Rock		
	2021	2030	Total	2021	2030	Total	2021	2030	Total	2021	2030	Total
Harvey	124			408			163			241		
Dardanup	186			611			244			362		
Collie	2			8			3			5		
Capel	167			550			220			326		
Bunbury	120			394			158			233		
Busselton	310			N/A			409			605		
Total Residential Demand	909			1971			1197			1772		
Total Demand	1410			3330			1197			4491		
+ contingency measure	2115	2813	4928	5100	6783	11883	1796	2388	4184	6767	8960	15697

Source: Department of Planning, 2012, p 16
Note: Measurements shown are '000m^3

Current conditions of development applications ensure minimum on/off site environmental impact is occurring. Ongoing compliance by the Shire and other relevant State Government Agencies ensures these conditions are met.

The Shire's *"Extractive Industry Local Law 2017"* contains provisions to manage this land use and it is considered that the current process is operating effectively in terms of management and rehabilitation. As such, there is not a requirement for additional measures to be proposed under this Strategy.

It is noted that the GBRS *Strategic Minerals and Basic Raw Materials Resource Policy 2017* identifies several areas as "Strategic Minerals and Basic Raw Materials Resource Policy Areas". Basic raw materials are being extracted outside of the GBRS Policy Areas but primarily relate to gravel extraction along the Scarp and limestone along the coast. It is a requirement of the Policy that these areas are shown on Local Planning Scheme maps and the provisions of the Policy are applied to protect these areas for future mining. The identification of these areas and appropriate provisions will be included in LPS No. 2.

The Department of Mines and Petroleum has opened the McLarty State forest up for sand and mineral extraction.

Landscape Value

The Shire's District Planning Scheme No. 1 (DPS1) has identified areas within its locality that are considered of important landscape value where their character should be protected in a state acceptable to the Shire. These places are listed under Schedule 1 of DPS1 and include:

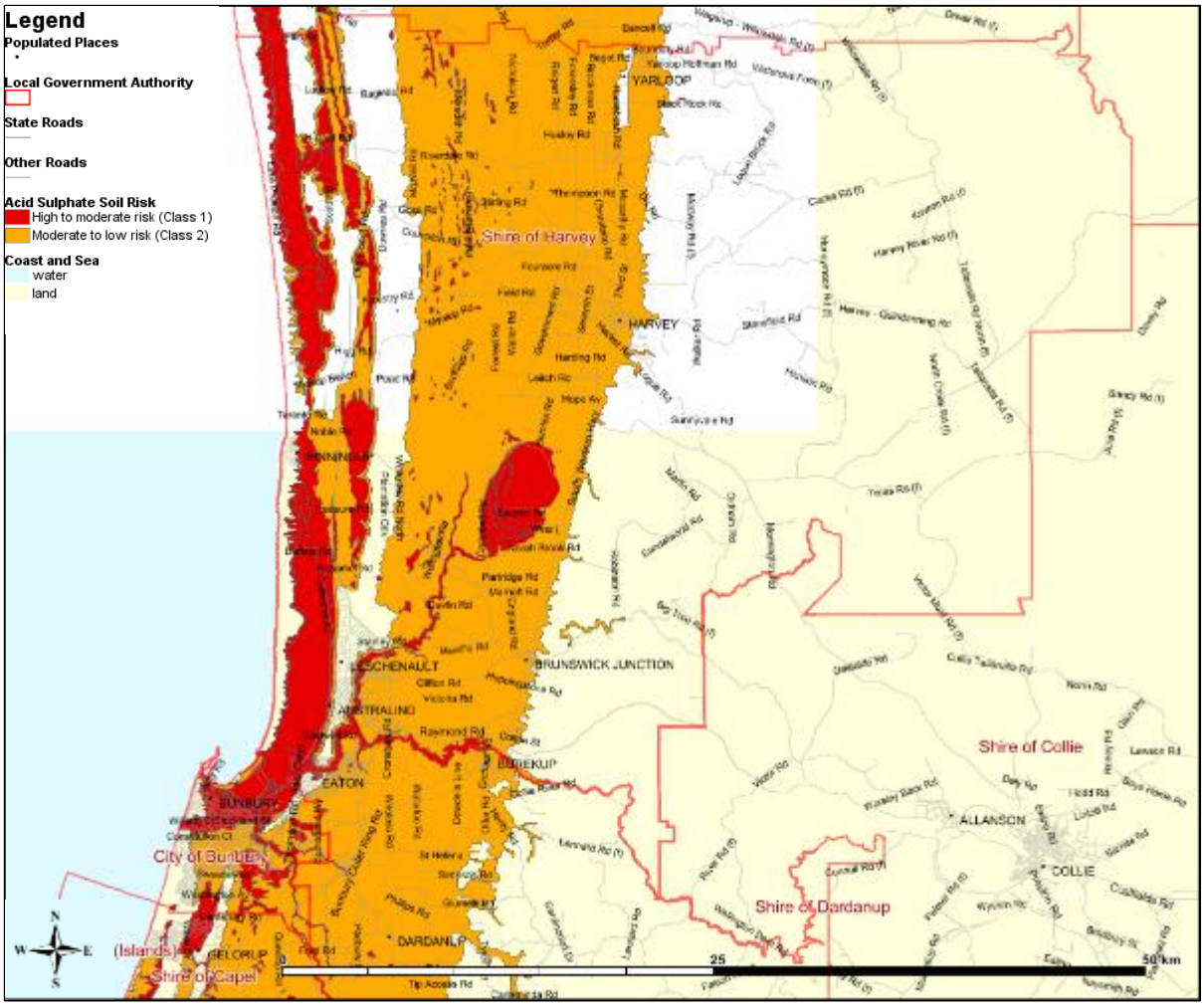
Code No.	Name of Place	Location	Description
L1	Cathedral Avenue	Scenic Drive along the eastern side of the Leschenault Inlet extending north from the Old Coast Road to Buffalo Road.	Avenue of paperbarks and other native trees lining an original section of the Old Coast Road.
L2	Coastal Lakelands	That part of the Scheme Area between the Old Coast Road and the Indian Ocean including the area 200 metres east of Old Coast Road.	An area of significant landscape value including Leschenault Estuary and the Indian Ocean coastline.
L3	Darling Range	That part of the Scheme Area generally between South Western Highway and the eastern boundary of the Shire.	An area of significant landscape value including the Darling Scarp and the Range plateau and valleys.
L4	Benger Swamp	West of the township of Benger and generally south of Mitchell Road.	A wetland of significant ecological value.
L5	La Porte Bird Rookery	South West corner of Leschenault Loc. 4 (Old Coast Road), Australind.	A natural swamp which is a breeding ground for White Egrets.

The Strategy has not proposed a review of these areas, but will examine the development controls to ensure the visual amenity of these areas is protected. In addition, it may be necessary to define amenity in context of these areas, given the introduction of the term in the *Planning and Development (Local Planning Schemes) Regulations 2015*.

Acid Sulfate Soils

Land within the Shire, particularly wetland areas near the coast, are known to contain acid sulphate soils (ASS). ASS occur naturally in WA and are harmless when left in a waterlogged, undisturbed environment. However, when exposed to air, through drainage or excavation, the iron sulfides in the soils react with oxygen and water to produce iron compounds and sulfuric acid. This acid can release other substances, including heavy metals, from the soil and into the surrounding environment and waterways (Department of Environmental Regulation 2015). Activities with the potential to disturb ASS must be managed carefully to avoid serious environmental harm. Western Australian Planning Commission Planning Bulletin No. 64 describes land that is of low, moderate and high risk of encountering acid sulphate soils and sets out the planning guidelines for dealing with these soils. The location and classification risk for these soils are shown in Figure 14.

Figure 14: Acid Sulphate Soils



Source: Environmental Planning Tool 2017

4.2 Water Management

4.2.1 Public Drinking Water Source Areas (PDWSAs)

Public Drinking Water Source Areas (PDWSAs) are surface water catchments and groundwater areas that provide drinking water to cities, towns and communities. These areas are proclaimed under the *Metropolitan Water Supply, Sewerage and Drainage Act 1909* or the *Country Areas Water Supply Act 1947* as water reserves, catchment areas or underground water pollution control areas. These Acts provide the powers necessary to legally define the boundary of public drinking water source areas and also provide by-laws which are used to help protect water quality of these sources and public health.

The Department of Water and Environmental Regulation (DWER) is responsible for managing and protecting the State's water resources. DWER prepares Drinking Water Source Protection Plans for each drinking water catchment, and determines priority areas, protection zones and the catchment boundary. The priority areas determine the suitability of land uses, whilst protection zones around reservoirs and bores act to further control land or water based activities to protect water quality.

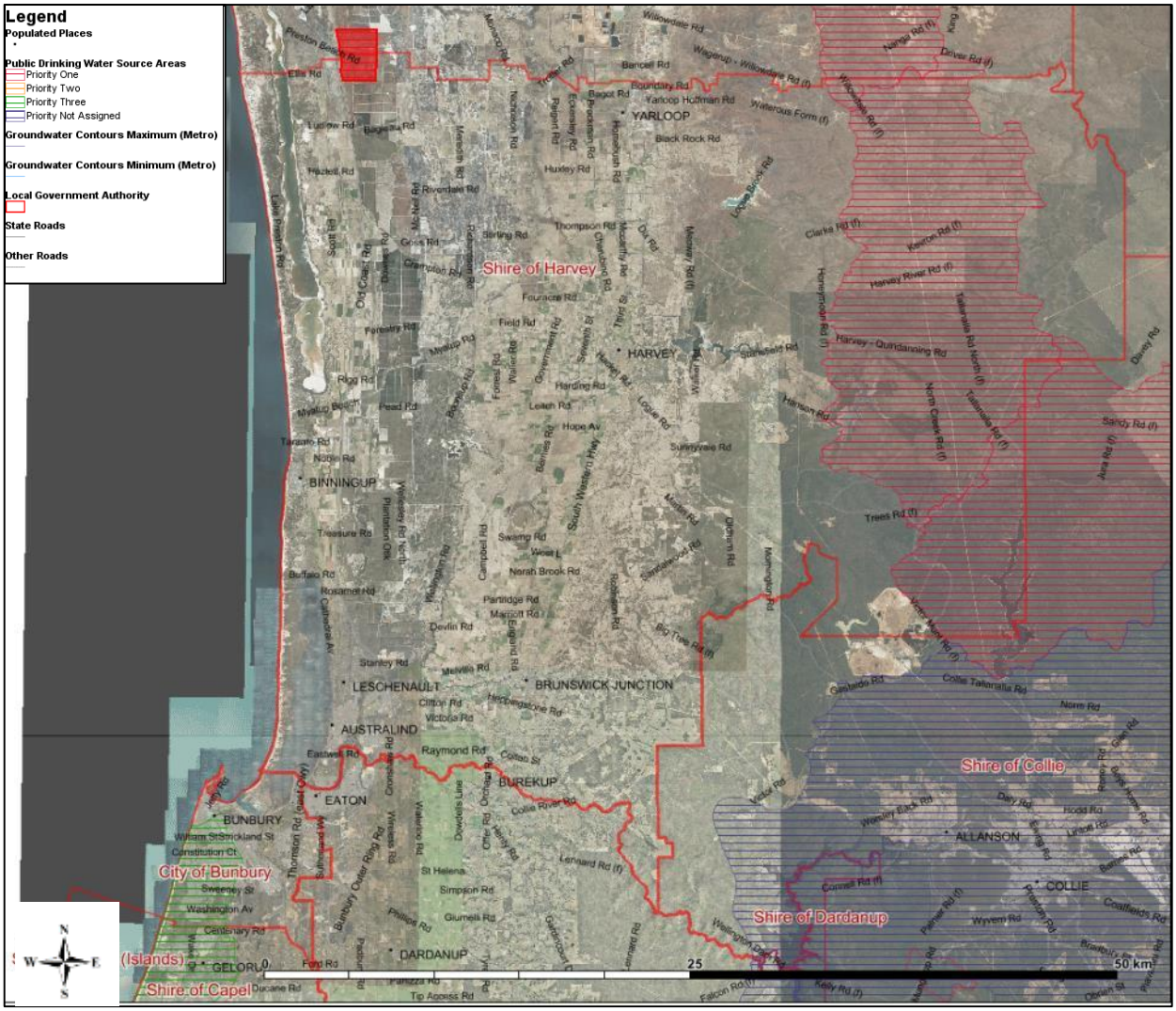
State Planning Policy 2.7 'Public drinking water source' and State Planning Policy 2.9: 'Water resources', guide land use planning in PDWSAs. SPP2.7 is supported by DWER's Water Quality Protection Note (WQPN) No. 25 'Land use compatibility tables for public drinking water source areas, 2016', which helps local government protect PDWSAs, by preventing, minimising or managing development in these areas.

The following proclaimed public drinking water source areas are located within the Shire:

- Harris River Dam Catchment Area (including a reservoir protection zone);
- Stirling Dam Catchment Area (including a reservoir protection zone);
- Preston Beach Water Reserve (southern half); and
- Samson Brook Catchment Area (small portion).

These areas are generally noted as 'Special Control Areas' in the Shire's DPS No. 1, and will be carried on into the new Scheme. Any strategic or development proposal within these catchment areas will be referred to the DWER. These areas are shown in Figure 15.

Figure 15: Public Drinking Water Sources



Source: Environmental Planning Tool 2017

4.2.2 Rivers and Waterways

The rivers and their catchment areas cover about 27% of the total Shire area of 1,766 km^2. The main river systems in the Shire include.

- *Harvey River* (408 km^2): flows north-easterly from the Harvey Reservoir to its discharge point at the southern end of the Harvey Estuary. Many of the waterways within the catchment have been modified and these portions of the rivers and brooks have been re-named as drains. Just downstream of the Harvey Reservoir the Harvey Diversion Drain carries water directly to the ocean.

  The headwaters of Logue Brook are located on the Darling Plateau in the Dwellingup State Forest. The Brook flows into Lake Brockman, the reservoir formed by Logue Brook Dam, before continuing through the coastal Plain to its confluence with Harvey Main Drain. Bancell Brook flows into Logue Brook while both Clarke Brook and Weeks Brook discharge into Harvey Main Drain, upstream of Logue Brook (Peel Harvey Catchment Council, 2014).

- *Brunswick River* (228 km^2): The headwaters of the Brunswick River are located approximately 55 km inland from the coast on the Darling Scarp north west of Collie. From there the river flows westward passing through Brunswick Junction before moving southward as it nears Australind before discharging into the Collie River at Point Latour, approximately 10 km from the Leschenault Estuary (McLaughlin and Jeevaraj 1994). The Brunswick River is the only fresh tributary to the salinity affected Collie River. The main tributary of the Brunswick River is the Wellesley River. Other tributaries are the Ernest, Augustus, Frederic and Lunenburgh Rivers and Elvira Gully.

  The dominant land uses in the upper part of the Brunswick River catchment are State forest and the Worsley Alumina Refinery. The lower part of the catchment is situated on the Swan Coastal Plain and supports agriculture, including horticulture and dairy farming, and an increasing number of lifestyle and residential properties closer to Australind. The lower section of the catchment encompasses approximately one third of its total area. The elevation of the catchment ranges from around 5 m AHD on the coastal plain in the west of the catchment, to 300 m AHD in the east along the Darling Scarp (Beckwith Environmental Planning Pty Ltd, 2010).

- *Wellesley River:* flows into the Brunswick River 10 km downstream of Brunswick Junction. The catchment forms part of the Harvey Irrigation District and as such is very flat and highly modified. The Wellesley's source is below Kemerton Substation at an elevation of 22.5m and ends at an elevation of 6.84m, where it merges with the Brunswick River. The Harvey River Diversion Drain provides an east west link from the Harvey River to the coast at Myalup and forms a central channel for the drainage and irrigation network of the Harvey hinterland.

Minor watercourses include Bancell Brook, Logue Brook, Clark Brook, Chalk Brook, Wellesley Creek and parts of the Harris River.

4.2.3 Groundwater

The Shire is located within two designated groundwater areas being the Bunbury Groundwater Area and the South West Coastal Groundwater Area. The Australind Sub Area draws on three aquifers, these being:

- The Superficial Aquifer (depth 0 - 50 metres) which is at 94% of its allocation limit of 900 megalitres.
- The Leederville Aquifer (depth 100 - 200 metres) which is at 100% of its allocation limit of 4,000 megalitres.
- The Yarragadee South Aquifer (300 – 1,700 metres) which is at 100% of its allocation limit of 4,000 megalitres.

Generally, the water quality of the Superficial and Yarragadee Aquifers is marginal and the Leederville Aquifer is fresh.

Myalup and Binningup are both located in the Myalup Sub Area where it is known that a saline plume from the Superficial formation extends into the upper Leederville formation increasing salinity of the more commonly fresh Leederville Aquifer. In addition, areas adjacent to the coast have saline water within the Lower Superficial and upper Leederville formations. High abstraction rates were considered to be increasing the recycling of salts in the area and therefore it has been recommended by the Water and Rivers Commission that local abstraction should not exceed 4000m_3/ha in the superficial aquifer. It is also recommended that Special Rural Lots be allocated a maximum of 1,500m_3 per annum.

Myalup and Binningup Town water supplies are obtained from the Leederville Aquifer. Due to increasing salinity and the aquifer nearing its allocation limit, no further licenses are being issued in the Leederville Aquifer for the Myalup Sub Area. There is water available for use in the Superficial Aquifer.

4.2.4 Irrigation

4.2.4.1 Harvey Water

The first irrigation scheme in the South West of Western Australia was constructed in 1915 – 1916 to service the Harvey region. The scheme was supplied from a small weir on the Harvey River initially to provide water for citrus orchards. The citrus industry was eventually to be supplemented by dairy farming. The system was expanded after World War 1 and again in the 1930s as a strategy to stimulate the growing dairy industry. Expansion continued through the 1940s and 1950s with further dam and channel construction.

This irrigation scheme is now known as the Harvey Water Irrigation Area and covers approximately 112,000 hectares (approx. 75 x 15km) over three irrigation zones: Waroona, Harvey and Collie (refer to Figure 16). Water has historically been supplied by gravity flow from dam to farm along a network of open concrete lined and earthen channels. These channels are being replaced as part of a major capital works program by Harvey Water with more efficient pipe distribution, still utilising energy-conserving gravity flow techniques. There is currently around 10,000 ha of land under permanent irrigation for dairy farming, beef grazing and horticulture, with a total irrigable area of approximately 34,369 ha (Harvey Water 2017).

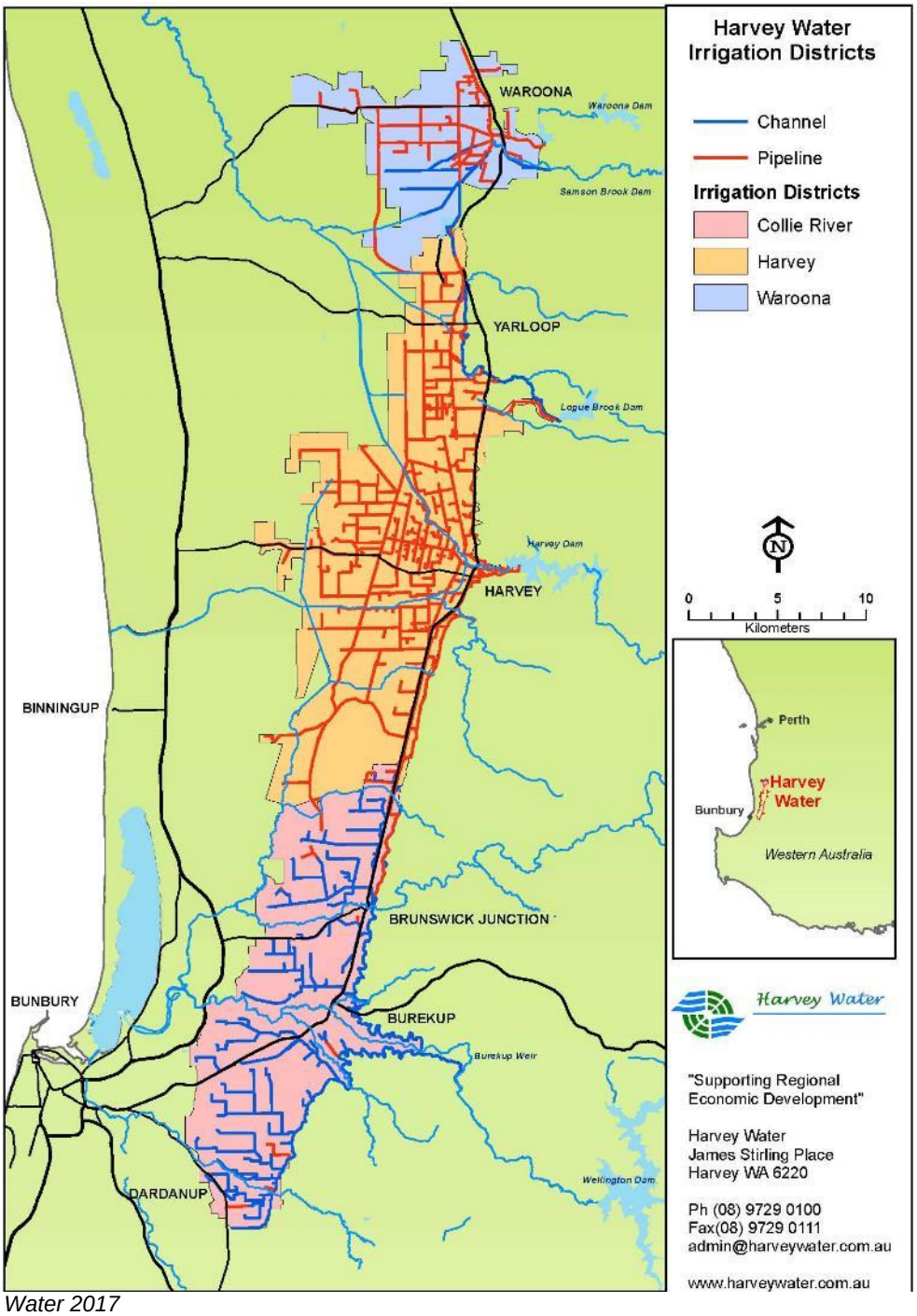
The majority of water is used for dairy and beef pasture with the balance used for fodder production (maize and millet), horticulture, fruit and vegetables. Harvey Water's water licence for 2016/17 is 136,360 megalitres per season from the five dams below that serve the irrigation area:

- approximately 64 giga litres from Harvey, Logue Brook, Drakesbrook, Waroona and Wokalup
- approximately 68 giga litres from Wellington Dam which flows to Burekup Weir.

The quality of the water is good, generally having less than 200mg/litre of Total Dissolved Salts. The water from Wellington Dam however has been of poor quality being generally over 1,000mg/litre of Total Dissolved Salts.

Harvey Water estimates that the annual production from the irrigation district is valued at $100m with a significant multiplier effect in the local communities.

Figure 16: Harvey Water Districts



Source: Harvey Water 2017

4.2.4.2 Water for Food initiative

The Water for Food program is a State Government initiative that is looking at increasing irrigated agriculture across Western Australia. One of the proposals identified is the Myalup-Wellington: Water for Growth. The purpose of the project is to provide water to the Myalup Irrigated Agricultural Precinct from Wellington Dam. This will be achieved by:

- replacing existing open irrigation channels with a close piped network;
- installation of additional pump stations; and
- the construction of a closed pipeline system from the Collie River Irrigation District to Myalup Irrigated Agricultural Precinct that will reinject water from Wellington Dam into aquifers in the Myalup area to address salinity issues.

DWER has advised that there are sensitive areas within or in the vicinity of this area that may be highly incompatible with rezoning to intensive agricultural use:

- The Priority 1 Preston Beach Water Reserve
- Environmentally Sensitive Areas (e.g. Banksia Woodland)
- Conservation Category Wetlands
- McLarty Explosives Facility.

A proposed Amendment to the GBRS is currently being investigated to change the purpose of the State Forest Reserve to a reserve purpose that reflects the intended development of the area for a variety of land uses primarily based around the development of this locality for horticultural land use.

4.2.7 Flood Management

DWER is responsible for the management of the nominated watercourses within the Shire. DWER also provides advice to the Shire on flood levels and developments within flood prone land. Generally, the Shire will unlikely support subdivision and development on land which is below the defined 1:100 year flood level. In some instances, development may occur, based upon favourable advice from DWER and where appropriate risk mitigation design factors have been incorporated (such as raising minimum floor and ground levels) where appropriate.

Within the Shire, the GBRS Policy: Floodplain Management Policy (2017) has defined areas around the Leschenault Estuary and parts of the lower Collie River.

4.2.8 Climate Change and Adaption

Climate change is a significant global issue that can have severe ramifications on the environment. In addition, climate change can have serious economic and social impacts as a result of increased intensity and number of extreme weather events, sea level rises affecting coastal and low lying areas. From a local perspective, Local Governments can help address this issue through the design of urban and regional centres, as well as mitigation plans for at risk areas.

4.2.8.1 Harvey Coastal Hazard Risk Management and Adaption Plan November 2016

The Peron Naturaliste Partnership (PNP) and the Shire have been involved in the preparation of the Harvey Coastal Hazard Risk Management and Adaption Plan (CHRMAP) for the Myalup and Binningup beach areas. The purpose of the project was to greatly increase the knowledge and understanding of coastal risks and potential adaptation measures. In particular, the outcomes will directly inform the development and implementation of the Myalup and Binningup Foreshore Management Plans. It will also assist in the implementation and review of the Harvey Coastal Management Plan 2006.

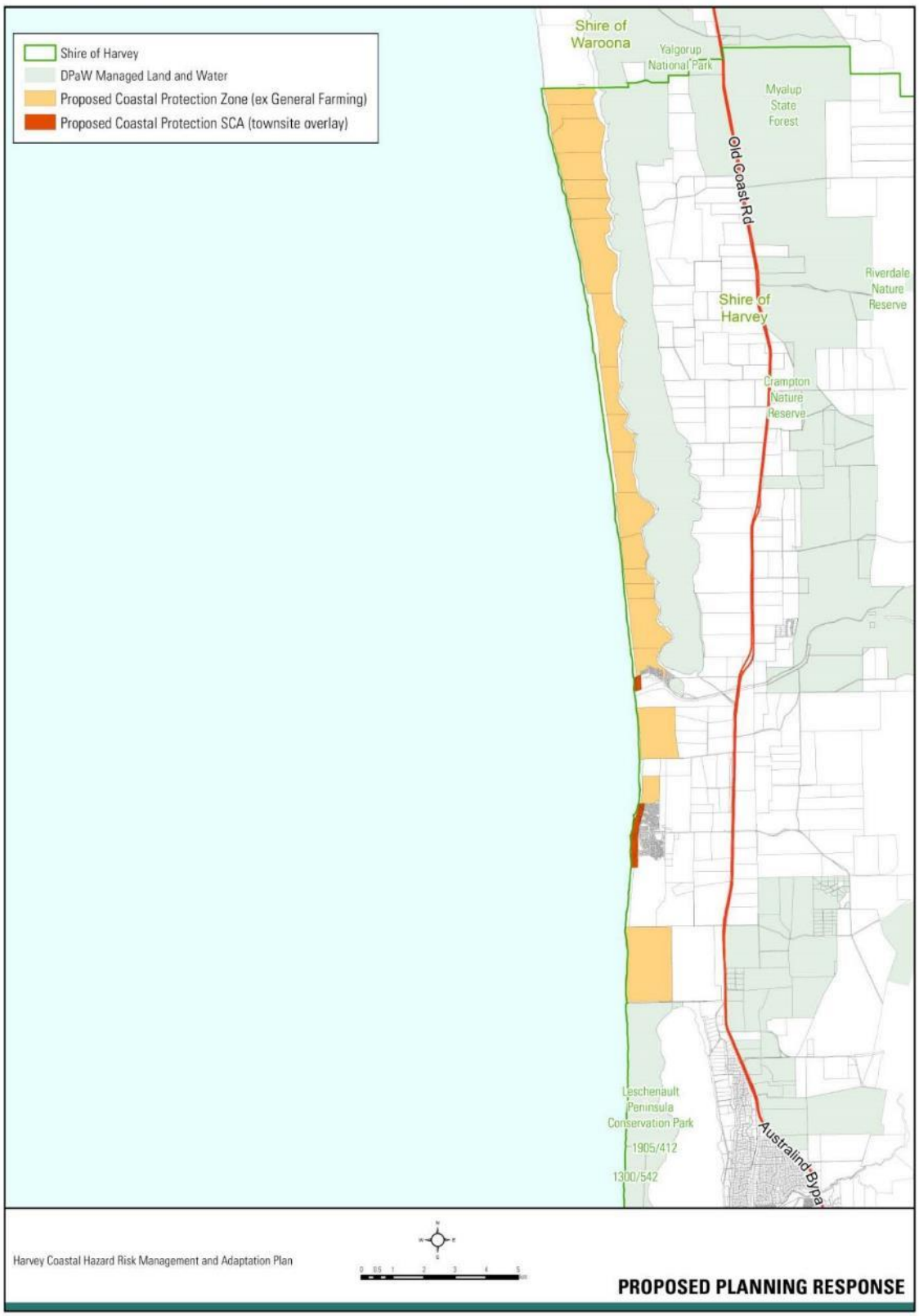
The document outlines a number of approaches in coastal and dune care options, however in terms of land use planning policy, it is recommended that a two-level approach to planning, policy and tenure be adopted. These provisions will complement the existing Precinct Policy Area Statements (1, 7 and 10) as outlined in DPS No. 1.

1. Regional Planning: Regional Open Space
   The Regional Open Space Reservation of the Greater Bunbury Region Scheme needs to be more extensive along the Harvey coast, recognising its regional significance and the implications that actions outside the Shire can have on this section of coast. The actual extent of reservation needs to be agreed between the Shire, affected landowners and the Western Australian Planning Commission; however it is recommended that as a minimum the mobile dune is reserved.

2. Local Planning: Local Planning Scheme
   The Shire has significant ability to influence land use planning at a local level. The Shire's Local Planning Scheme may consider the following mechanisms to provide the appropriate planning response:
   - Coastal Protection zone to cover all lots with frontage to the coast;
   - Coastal Processes Special Control Area within Binningup and Myalup to a line 150m landward of the existing coast; and
   - Specific requirement for Structure Plans prepared in accordance with Scheme Provisions to consider coastal processes.

In February 2017, Council adopted the CHRMAP 2016. The land use planning recommendations outlined will be considered in the drafting of the new Scheme.

Figure 17: Extract of proposed planning response from CHRAMP 2016



Source: CHRAMP 2016

4.3 Population and Housing

The population characteristics of the Shire are important in providing the statistical basis to assist in the long term planning and development of the Shire. An analysis of population characteristics informs the current demographic situation and can assist in determining the nature of the housing market and the services that will be required to support this. The purpose of assessing and describing the population structure or demographic characteristics is to provide an understanding of population needs and to be able to create appropriate policy measures for the provision of housing types and densities, employment and open space requirements to meet the populations' needs.

This section will look mostly at Harvey as a Shire; however, will also highlight the demographic profiles of the major population centres within the Shire. Statistics have been based on the 2016 and 2011 Australian Bureau of Statistics (ABS) Census results and the Basic Community Profile compiled by the ABS. Population projections have been sourced (where possible) from the Western Australian Planning Commission's *Western Australia Tomorrow Population Report No. 10 (WA Tomorrow)* and the Shire's Population and Household Forecasts 2017 population reports produced by forecast.id (latest review and update made in February 2017).

4.3.1 Population

The Shire's population was recorded as 27,029 persons in the 2016 census (WA Tomorrow). This represents an increase in the population by approximately 13% from 2011 when the population of the Harvey Shire was 23, 880 persons.

Table 12: Population Change from 1991 to 2016

Population Figures 1991 to 2016	
1991	13,097
1996	15,556
2001	17,287
2006	20,620
2011	23,880
2016	27,029

Source: WA Tomorrow 2015 and forecast.id 2017

Population projections

The Western Australian Planning Commission has produced a series of population projections for statistical divisions and local government areas in Western Australia. The WA Tomorrow report has prepared five different forecasts (Bands) to outline a range of population change results and recommends users utilise a particular band depending on their purpose, risks and understanding of the area. These forecasts have been made on a single set of assumptions as opposed to a set of different scenarios and based on population trends and patterns (such as birth and death rates). Each of these Bands represents the following:

- Bands A and B contain the lower forecasts;
- Band C is the median forecast; and
- Bands D and E represent the higher forecasts.

In addition, the Shire has previously commissioned population reports prepared by forecast.id. The WA Tomorrow projections have been compared with the Forecast.id data from 2017 as shown in Tables 13 and 14, and Figure 18 below.

Table 13: Population Projections

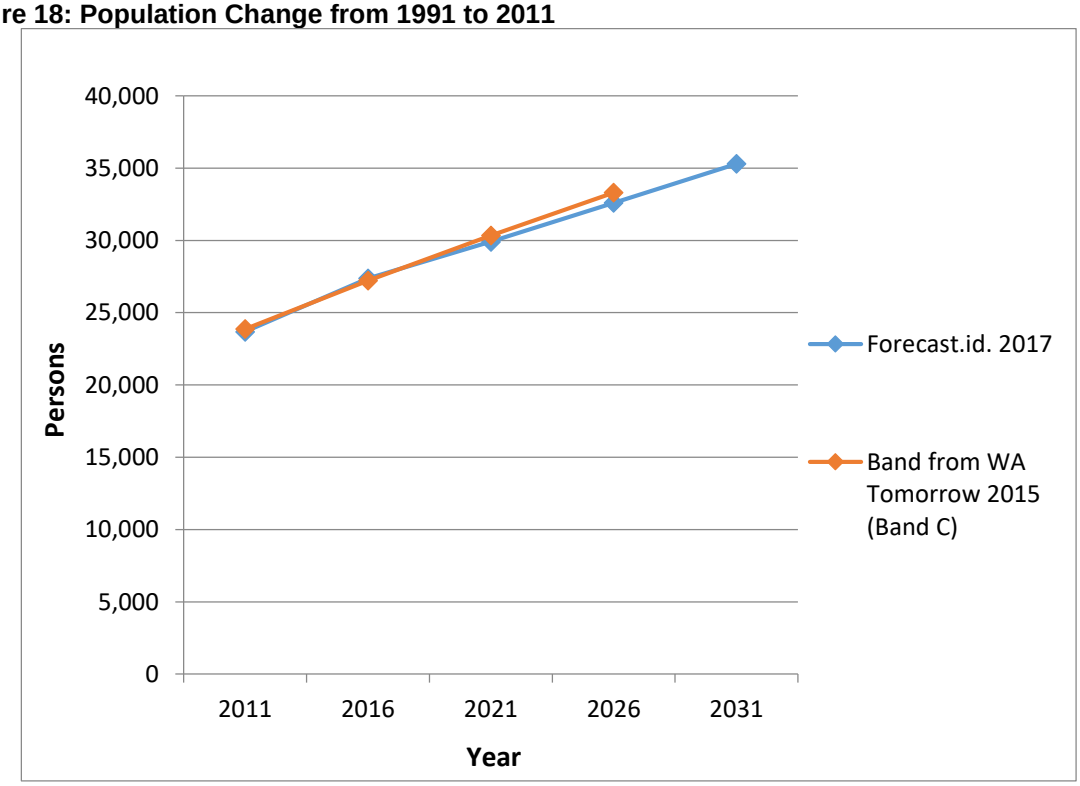
Persons	Band from WA Tomorrow 2015					Forecast.id
	A	B	C	D	E	(2017)
2011	23 880	23 880	23 880	23 880	23 880	23,685
2016	26 570	26 920	27 220	27 470	27 920	27,380
2021	29 450	29 940	30 340	30 680	31 250	29,907
2026	32 130	32 800	33 310	33 780	34 520	32,606
2031						35,306

Table 14: Average Annual Growth Rate from 2011 onwards

Percentage	Band from WA Tomorrow 2015					Forecast.id
	A	B	C	D	E	(2013)
2016	2.16%	2.43%	2.65%	2.84%	3.18%	2.77%
2021	2.12%	2.29%	2.42%	2.54%	2.73%	1.78%
2026	2.00%	2.14%	2.24%	2.34%	2.49%	1.74%
2031						1.60%

Source: WA Tomorrow 2015 and forecast.id 2017.

Figure 18: Population Change from 1991 to 2011



Source: WA Tomorrow 2015 and forecast.id 2017.

Based on the analysis, both reports have predicted positive population growth in the Shire over the next 15 years. Forecast.id projects a growth rate similar to the WAPC's Band B between 2011 and 2016. The projected annual growth rate between 2016 and 2026 is predicted to reduce to 1.72%, which is lower than Band A's prediction. Forecast.id (with the lowest population growth forecast) has projected Harvey will grow an additional 8,412 persons in comparison to WAPC (Band E being the highest population growth forecast) who has predicted the total population to grow an additional 10,640.

Although the WAPC and Forecast.id have used similar assumptions, trends and patterns in their analysis, the differences between the results can be attributed to the different combination of methodologies adopted. By average the projected population results between the WAPC's Band E and the population projections made by Forecast.id, the average population growth is expected to be around 9,430, which is the same as Band C. Given this, it is recommended the future planning should be based on the population figures projected for Band C of the WAPC WA Tomorrow 2015 up to the year 2026, and Forecast.id (2017) figures for 2031.

4.3.2 Age/sex Structure

The 2016 Census identifies that the largest age groups in the Shire as being:-

- the 5 – 9 years age group with 1,745 persons or 7.5%;
- the 10 – 14 years age group with 1,904 persons or 8.2 %;
- the 40 – 44 years age group with 1,800 persons or 7.7 %; and
- the 45 – 49 years age group with 1,733 persons or 7.5%.

This compares to the 2011 Census when the largest age groups were:-

- the 5 – 9 years age group with 2,048 persons or 7.7%;
- the 10 – 14 years age group with 2,032 persons or 7.7 %;
- the 15 – 19 years age group with 1,867 persons or 7.0 %;
- the 45 – 49 years age group with 1,913 persons or 7.2 %.

The census data indicates that there is a strong presence of the typical family with children, preteen and teenage children (aged 0 to 19) accounting for 29.2 % of the population and adults (aged 30 to 54) account for 33.9 % population. It is noted that the over 55 year old sectors accounts for 27.1 % of the total population whilst the young adult aged group (aged 20 to 29) account for 9.8 % of the total population.

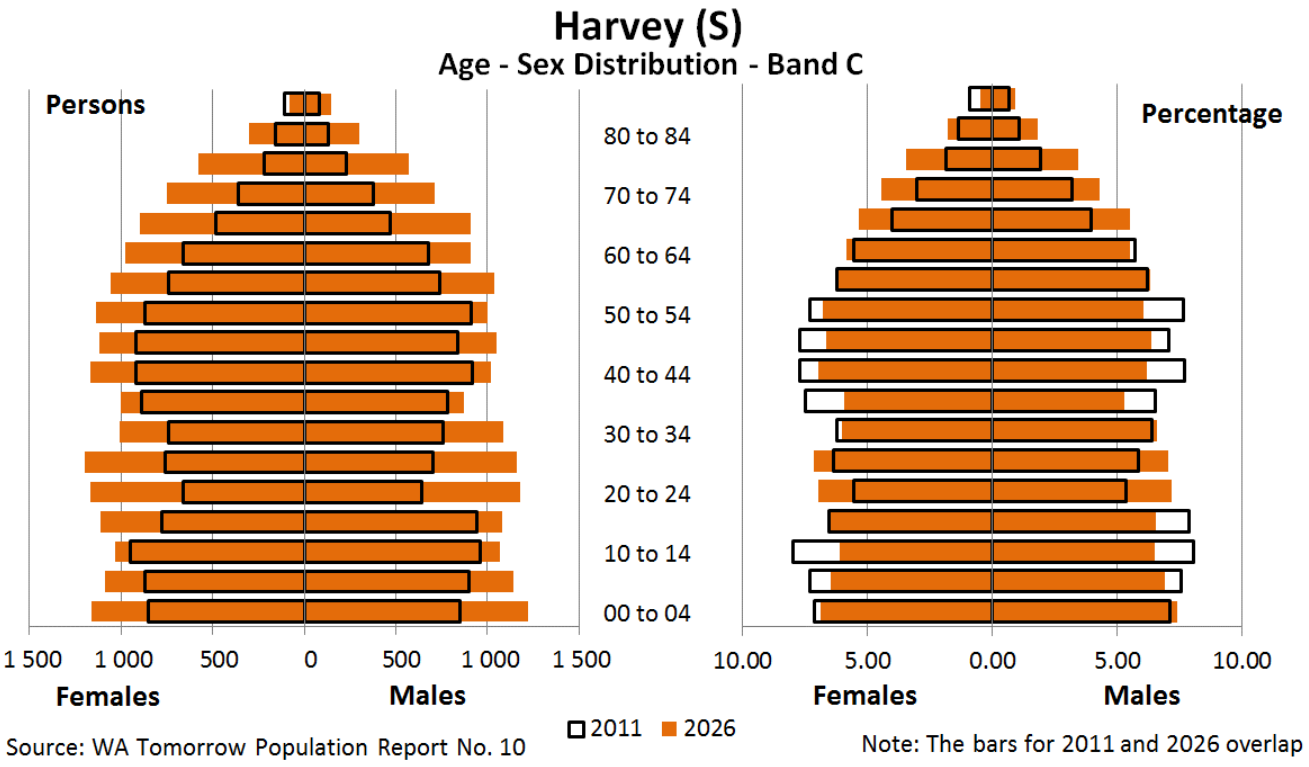
Based on these trends and current population literature, it is expected that established couples with young children are more likely to migrate to suburban or regional areas, whilst the young adult aged group seek further education and employment opportunities offered by larger cities. This trend has been typical with previous census data (2011).

Projections

The table and figures outlined in the WA Tomorrow Populations Report No. 10 (2014) has projected that the Shire is expected to have an overall increase in its population. The aged/sex structure of the population in 2026 is expected to change over the course of the next 10 years forecasts as shown in Figure 19. Forecast.id figures project up to 2031 and have been included in Table 15. The figures and data in the Table show:

- There is expected modest growth in the preteen and teenage (10 to 19) aged bracket;
- The number of people in the 65 to 79 age bracket is expected to have the largest percentage increase. The number of aged people 85 and over in 2031 is expected to increase 155% when compared with the number of people in that age bracket in 2016;
- The age/sex structure of 2016 indicates the traditional family unit will not have the same level of presence as the older aged group; and
- There is a higher percentage of young adults aged 20 to 29 in 2026 (15.3% of the population) in comparison with 2016 (11.6 % of the population).

Figure 19: Age - Sex Distribution



These population trends highlight the Shire will experience an ageing population. It is expected people from the 50 to 64 age bracket in 2011 will live longer, however migration would explain the population growth of this age bracket. The Shire therefore will need to promote the development of aged care housing and facilities to meet future demand.

Another interesting trend however is the higher percentage of young adults aged 20 to 29 in 2031 in comparison with 2016. It is likely that this trend could be attributed to attraction factors in the South West, improved internet and technology services removing limitation or improving economic opportunities.

Table 15: Age/Sex Profile for 2016 and Forecast Age/Sex Profile for 2021, 2026 and 2031

Persons	2016				2021				2026				2031				Forecasted Change 2016 - 2031			
Age Range	Female	Male	Total	%	Female	Male	Total	%	Female	Male	Total	%	Female	Male	Total	%	Female	Male	Total	Overall (%)
0 to 4	1,047	1,053	2,100	7.67	1 050	1 100	2 150	7.08	1 160	1 220	2 380	7.14	1,236	1,290	2,526	7.15	189	1,290	426	20.29
5 to 14	1,054	1,035	2,089	7.63	920	960	1 880	6.19	1 090	1 140	2 230	6.69	1,330	1,333	2,663	7.54	276	1,333	574	27.48
10 to 14	1,014	1,001	2,015	7.36	1 020	1 010	2 030	6.69	1 030	1 070	2 100	6.30	1,327	1,296	2,623	7.43	313	1,296	608	30.17
15 to 19	905	932	1,837	6.71	1 110	1 110	2 220	7.31	1 110	1 080	2 190	6.57	1,120	1,112	2,232	6.32	215	1,112	395	21.50
20 to 24	697	742	1,440	5.26	1 150	1 140	2 290	7.54	1 170	1 180	2 350	7.05	855	787	1,641	4.65	158	787	201	13.96
25 to 29	842	792	1,634	5.97	920	1 040	1 960	6.46	1 200	1 160	2 360	7.08	939	877	1,816	5.14	97	877	182	11.14
30 to 34	970	927	1,896	6.93	860	780	1 640	5.40	1 010	1 090	2 100	6.30	1,129	1,064	2,193	6.21	159	1,064	297	15.66
35 to 39	976	927	1,903	6.95	1 050	920	1 970	6.49	1 000	870	1 870	5.61	1,274	1,169	2,443	6.92	298	1,169	540	28.38
40 to 44	1,000	877	1,877	6.86	1 050	1 000	2 050	6.75	1 170	1 020	2 190	6.57	1,283	1,164	2,446	6.93	283	1,164	569	30.31
45 to 49	992	938	1,931	7.05	1 120	980	2 100	6.92	1 120	1 050	2 170	6.51	1,263	1,133	2,396	6.79	271	1,133	465	24.08
50 to 54	945	895	1,840	6.72	1 050	1 030	2 080	6.85	1 140	1 000	2 140	6.42	1,138	1,045	2,183	6.18	193	1,045	343	18.64
55 to 59	897	887	1,785	6.52	980	900	1 880	6.19	1 060	1 040	2 100	6.30	1,080	947	2,028	5.74	183	947	243	13.61
60 to 64	769	740	1,509	5.51	900	930	1 830	6.03	980	910	1 890	5.67	1,014	915	1,929	5.46	245	915	420	27.83
65 to 69	651	648	1,298	4.74	780	750	1 530	5.04	900	910	1 810	5.43	926	835	1,761	4.99	275	835	463	35.67
70 to 74	468	439	907	3.31	670	650	1 320	4.35	750	710	1 460	4.38	835	766	1,601	4.54	367	766	694	76.52
75 to 79	340	336	676	2.47	410	400	810	2.67	580	570	1 150	3.45	662	588	1,251	3.54	322	588	575	85.06
80 to 84	192	170	361	1.32	220	250	470	1.55	300	300	600	1.8	477	383	860	2.43	285	383	499	138.23
85 and over	165	115	280	1.02	60	90	150	0.49	80	150	230	0.69	390	324	714	2.02	225	324	434	155.00
Total	13,925	13,455	27,380	100.0	15 320	15 040	30 360	100.0	16 850	16 470	33 320	100.0	18,276	17,030	35,306	100.0	4,351	3,575	7,926	28.9

Source: WA Tomorrow Population Report No. 10 (2014) for 2021 and 2026, and Forecast.id for 2031

4.3.3 Migration

Migration is a significant component of population change. The movement of people influences the characteristics of the population and the demand for services and facilities. Migration is the most volatile component of population change and can be affected by changing housing and economic opportunities such as housing affordability issues or the mining boom.

There are three main types of migration in Australia, overseas migration, between-state migration, and within-state migration. Looking at the level and type of migration in the Shire can indicate whether the population is sedentary and likely to be in the area for a long time (and perhaps have significant ties to the community), or transient, and likely to move on. Tables 16 and 17 from Profile.id have provided a summary of the migration patterns of the Shire in relation to location.

Table 16: Previous residential location of current residents in 2011

Migration summary	Number	Percentage
Residents who did NOT move between 2006 and 2011	10,918	47.0
Total residents who moved between 2006 and 2011	9,247	39.8
- *Residents who had moved within the Shire of Harvey between 2006 and 2011*	2,722	11.7
Residents who moved from another part of Western Australia	4,720	20.3
- *Residents who moved from another part of Australia*	684	2.9
- *Residents who moved from another country*	1,026	4.4
- *Residents who moved from an unknown area*	110	0.5
Not stated - Didn't state whether or not moved	1,375	5.9
Not applicable - Births between 2006 and 2011	1,695	7.3
Total 2011 usual resident population	23,235	100.0

Table 17: Previous residential location of current residents in 2011

Migration between the area and other States/Territories in the Shire of Harvey			
State / Territory	**In migration**	**Out migration**	**Net migration**
New South Wales	128	70	58
Victoria	126	107	19
Queensland	256	140	116
South Australia	76	49	27
Western Australia	4,720	3,890	830
Tasmania	29	47	-18
Northern Territory	65	26	39
Australian Capital Territory	4	9	-5

Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 (Usual Residence Data). Compiled and presented by profile .id.

Migration by age group

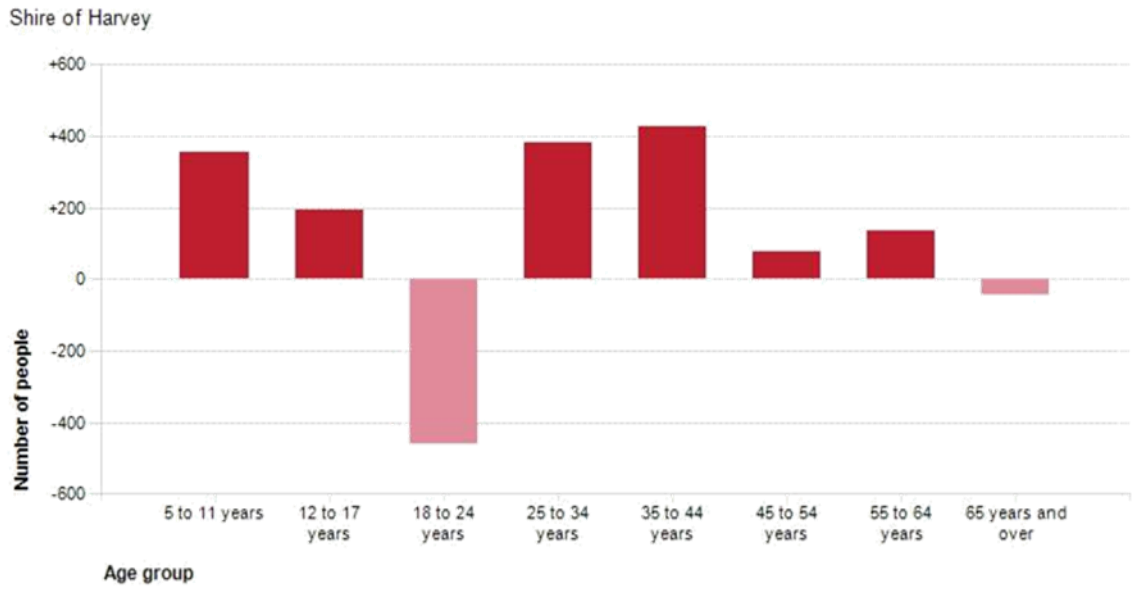
Further analysis of this migration data in relation to the age structure of people who move into and out can influence demand for particular services and identify the character of an area. Understanding the Shire's attraction to different age groups helps to plan services for the community as well as advocating with other levels of government and private enterprise to provide infrastructure, employment opportunities and facilities which may help to retain age groups which are otherwise leaving the area. These trends have been examined in the Table and Figure below.

Table 18: Migration by age group 2011

Age group	In migration	Out migration	Net migration
5 to 11 years	+764	-411	+353
12 to 17 years	+533	-339	+194
18 to 24 years	+504	-963	-459
25 to 34 years	+1,113	-729	+384
35 to 44 years	+1,015	-588	+427
45 to 54 years	+651	-574	+77
55 to 64 years	+509	-374	+135
65 years and over	+315	-360	-45
Total	+5,404	-4,338	+1,066

Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 (Usual Residence Data). Compiled and presented by profile.id.

Figure 20: Migration by age group 2011



Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 (Usual Residence Data). Compiled and presented in by profile.id.

The age/sex structure in the previous section 4.3.2 highlighted a lower young adult (20 to 29) age bracket for the area. This is likely because inner city areas offer more employment, education and entertainment options that attract many young people in their late teens and early twenties. Rural areas tend to lose young people and gain older families and retirees.

4.3.4 Culture, Language and Ethnic diversity

Ancestry

Ancestry defines the cultural association and ethnic background of an individual going back three generations (Profile.id 2017). Ancestry is a good measure of the total size of cultural groups in the Shire regardless of where they were born or what language they speak (Profile.id 2015). The Census data and Table 19 produced by Profile.id identifies the ancestry of the population and compares the percentage with the rest of the State.

Table 19: Ancestry of the Shire of Harvey between 2011 and 2016

	2011		WA	2016		WA	Change
Ancestry	Number	%	%	Number	%	%	2006 to 2011
English	10,134	43.6	37.9	11,654	43.9	37.6	+1,520
Australian	9,331	40.2	32.3	10,514	39.6	30.7	+1,183
Irish	1,978	8.5	8.4	2,516	9.5	9.1	+538
Scottish	1,978	8.5	8.3	2,378	9.0	8.7	+400
Italian	1,900	8.2	5.0	2,075	7.8	5.0	+175
German	693	3.0	2.8	796	3.0	3.0	+100
Dutch	485	2.1	2.0	591	2.2	1.9	+106
Maori	443	1.9	1.0	482	1.8	1.1	+39
New Zealander	303	1.3	1.2	388	1.5	1.3	+85
Filipino	202	0.9	0.9	422	1.6	1.4	+220

Source: Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011. Compiled and presented in profile.id
Note: Excludes ancestries with fewer than 20 responses, or less than 0.1% of the total population.

Birthplace

Country of Birth data identifies where people were born and is indicative of the level of cultural diversity in the Shire. The mix of Country of Birth groups is also indicative of historical settlement patterns, as source countries for Australia's immigration program have varied significantly over time (Profile.id 2017).

Analysis of the country of birth of the population in the Shire in 2016 compared to WA shows that there was a smaller proportion of people born overseas, and a smaller proportion of people from a non-English speaking background. Overall, 19% of the population was born overseas, and 6.1% were from a non-English speaking background, compared with 32.2% and 16.6% respectively for WA.

Table 20: Birthplace of the Shire of Harvey between 2011 and 2016

	2011		WA	2016		WA	Change
Birthplace	Number	%	%	Number	%	%	2011 to 2016
United Kingdom	1,768	7.6	10.3	1,851	7.0	9.4	+83
New Zealand	912	3.9	3.2	1,017	3.8	3.2	+103
South Africa	299	1.3	1.6	396	1.5	1.7	+173
Italy	201	0.9	0.9	176	0.7	0.8	-25
Philippines	184	0.8	0.8	389	1.5	1.2	+205
Zimbabwe	123	0.5	0.4	136	0.5	0.5	+67
Ireland	81	0.3	0.6	96	0.4	0.7	+15
Netherlands	81	0.3	0.4	103	0.4	0.4	+22
Germany	80	0.3	0.5	90	0.3	0.4	+10
Taiwan	35	0.2	0.1	85	0.3	0.2	+50

Source: Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011. Compiled and presented in profile.id
Note: Excludes countries with fewer than 20 people, or less than 0.1% of the total population.

Table 21: Birthplace of the Shire of Harvey between 2011 and 2016

	2011		WA	2016		WA	Change
Birthplace	**Number**	**%**	**%**	**Number**	**%**	**%**	**2011 to 2016**
Total Overseas born	4,324	18.6	30.5	5,047	19	32.2	+723
Non-English speaking backgrounds	*1,191*	*5.1*	*14.2*	*1,616*	*6.1*	*16.6*	*+425*
Main English speaking countries	*3,133*	*13.5*	*16.3*	*3,431*	*12.9*	*15.6*	*+298*
Australia	17,509	75.4	63.0	19,334	72.9	60.3	+1,825
Not Stated	1,401	6.0	6.4	2,143	8.1	7.5	+742
Total Population	23,234	100.0	100.0	26,524	100	100	+3,290

Source: Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011. Compiled and presented in profile.id

The largest changes in birthplace countries of the population in this area between 2016 and 2011 were for those born in:

- Philippines (+205 persons)
- New Zealand (+103 persons)
- United Kingdom (+83 persons)
- South Africa (+173 persons)

Language and Citizenship

An assessment of the ABS 2011 and 2016 Census data provides an overview of the ethnic backgrounds of the population of the Shire. Some key points to note from the statistics (2006 and 2011) include:

- The Shire has a high number of Australian citizens however there has been an increase in overseas migration. In 2011, 85% (19,788) of the Shire's population were Australian citizens in comparison to 2006, where 88% (17,211) of the Shire's population were Australian citizens.
- Between 2011 and 2015, there have been 479 migrants whom have become Australian Citizens of which 130 were from the United Kingdom, 109 were from South Africa and 108 were from the Philippines.
- The high proficiency in the English language (89% only speak English at home).
- In 2011, the five most commonly spoken languages other than English are Italian (1.9%), Afrikaans (0.5%), Tagalog (0.4%), Filipino (0.3%), and Maori (0.2).

4.3.5 Family and Non-family Household Composition

An assessment of the ABS 2011 and 2016 Census data provides an overview of the family and non-family household composition of the population of the Shire. This data has been prepared in Table 22 and household projections shown in Table 23.

Table 22: Family and non-family household composition

Family type and Composition	2011	%	Comparison with the rest of the State (2011)	2016	%	Comparison with the rest of the State (2016)
Couple family without children	2,988	29.5	25.9	2,778	28.8	25.6
Couple family with children	2,484	35.5	30.7	3,325	34.4	30.9
One parent family	802	9.6	14.5	880	9.1	9.6
Other Families	59	0.6	1.2	40	0.5	1.2
Total	**6,333**			**7,023**		
Family Households*	6,333	75.2	72.3	7,023	72.8	67.3
Single or lone person households	1,442	17.1	23.7	1,761	18.2	21.8
Group Households	178	2.1	4.0	170	1.8	3.5
Total	**8,428**			**8,954**		

**Excludes visitor only and other not classifiable households*
Source: ABS 2011, Forecast.id 2017 and WA Tomorrow Population Report No. 8 2006 to 2026

Table 22 shows that there will be an overall increase in the number of households over a 15 year period. The information from the Forecast.id (2017) highlights a downward trend in the average and family household size. This data shows a greater percentage increase in the number of single or lone person households in comparison to family households. In 2016, family households made up 72.8% of the total number of household while 18.2% comprised of single or lone persons. In comparison to this it is expected the family household will make up 80.1% of total households and 18% will comprise of single or lone persons in 2031. According to Forecast.id reports (2017) this trend is likely due to a few key factors such as an ageing population and families have fewer children.

Table 23: Projections of household size from 2011 to 2031

Household	2011	2016	2021	2026	2031
Family households	6,308	7,023	9,049	9,898	10,724
Group households	178	170	212	226	241
Singles or lone person households	1,442	1,761	1,896	2,145	2,416
Total Households	**8,428**	**8,954**	**11,157**	**12,269**	**13,381**
Average Household Size	*2.69*	*2.69*	*2.66*	*2.64*	*2.62*

Source: ABS 2011, Forecast.id 2017 and WA Tomorrow Population Report No. 8 2006 to 2026
Note: The household size projections data sourced from the WA Tomorrow Report No. 8 (2006) as this information was not projected in the latest WA Tomorrow Report No. 10 (2012).

4.3.6 Number and Type of Dwellings

The total number of dwellings in the Shire in 2011 was 9,678. Of this 93.8% comprised of detached dwellings. The comparison between the Shire and the rest of the State is shown in Table 17.

Table 24: Dwelling Types

Housing Type	2016	%*	Comparison with the rest of the State (2016)	2011	%*	Comparison with the rest of the State (2011)
Occupied private Dwellings						
- ***Separate house***	8,417	93.8	79.1	7,435	93.8	80.4
- ***Semi detached***	356	4.0	14.1	181	2.3	10.6
- ***Units / flats***	52	3.0	5.6	167	2.1	7.9
- ***Other***	91	0.7	0.7	136	1.7	0.9
- ***Not Stated***	49	0.5	0.3	6	0.1	0.2
Unoccupied private Dwellings	1,303	-	-	1,250	-	-
Total	**10,282**			**9,175**		

** Percentages did not include unoccupied private dwellings in the total*
Source: Census data 2016 & 2011

The figures show an increased number of separate houses and semi-detached dwellings in the Shire between 2016 and 2011. Within that same time period, it is also noted that the Shire has a consistent higher percentage of separate houses in comparison to the rest of the State; a difference of approximately 14.7 percent in 2016. This is highly likely due to the difference in the type of lifestyle and development preferred in regional areas in comparison to Perth, where there is a greater choice in housing type.

The apparent high number of unoccupied private dwellings is noted. These are defined by the ABS as structures built specifically for living purposes which are habitable, but unoccupied on Census night. Vacant houses, holiday homes, huts and cabins are counted as unoccupied private dwellings.

Number of Building permits issued

Building approvals are used as a leading indicator of the general level of residential development, economic activity, employment and investment (profile.id 2017). Residential building activity depends on many factors that vary with the state of the economy including interest rates, availability of mortgage funds, government spending, and business investment. Large financial changes or shocks, such as the Global Financial Crisis of 2008/09 can be observed in the data (profile.id). However, the number of building approvals can fluctuate substantially from year to year simply as a result of the short-term nature of many construction projects, the release of land and the cyclical nature of the industry.

Table 25: Residential building approvals every financial year from 2001/02 to 2014/15

	Number			Annual change		
Year (ending June 30)	Houses	Other	Total	Houses	Other	Total
2016-17 (FYTD)	121	4	125	--	--	--
2015-16	185	21	206	-86	+11	-75
2014-15	271	10	281	-86	-6	-92
2013-14	357	16	373	+110	-12	+98
2012-13	247	28	275	+6	+26	+32
2011-12	241	2	243	-65	-25	-90
2010-11	306	27	333	-22	-32	-54
2009-10	328	59	387	+76	+34	+110
2008-09	252	25	277	+5	+18	+23
2007-08	247	7	254	-114	-3	-117
2006-07	361	10	371	-225	+4	-221
2005-06	586	6	592	+128	-6	+122
2004-05	458	12	470	+199	-17	+182
2003-04	259	29	288	--	--	--

Source: Australian Bureau of Statistics, Building Approvals, Australia (8731.0). Compiled and presented in profile.id by .id

4.3.7 Housing

A snapshot examination of the 2016 Census data has revealed the following housing trends:

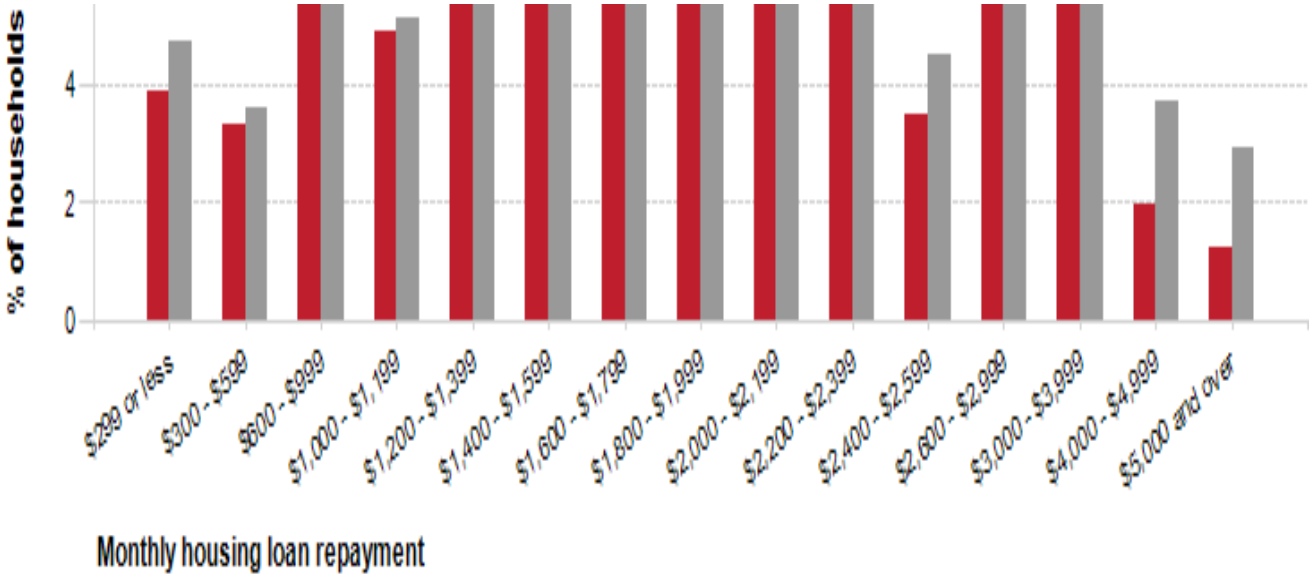
- there is a high level of home ownership within the Shire, with 69.9% of households purchasing or fully owned their own home;
- there has been a general increase in the overall housing stock, however proportionately there is a greater number of people whom have a mortgage in 2016 (40.8%) than in 2011 (39.8%);
- the rate of home ownership within the Shire is comparable to the rest of the State (64.2%);
- the median rent was $260 per week whereas in 2011 the median rent was $160 per week;
- overall, 5.1% of households were paying high rental payments, and 27.4% were paying low payments, compared with 20.0% and 26.5% respectively in Western Australia; and
- the monthly housing loan repayments of households in the Shire compared to Western Australia shows that there was a smaller proportion of households paying high mortgage repayments ($2,600 per month or more), as well as a smaller proportion of households with low mortgage repayments (less than $1,200 per month). Overall, 18.3% of households were paying high mortgage repayments, and 19.8% were paying low repayments, compared with 25.9% and 20.4% respectively in Western Australia.

Table 26: Home Ownership types

	2011			2016			Change
Tenure type	**Number**	**%**	**WA %**	**Number**	**%**	**WA %**	**2016 to 2011**
Fully owned	2,450	29.1	28.7	2,808	29.1	27.3	+358
Mortgage	3,353	39.8	35.5	3,940	40.8	36.9	+587
Renting	1,981	23.5	28.1	2,013	20.8	26.8	+32
Renting - Social housing	223	2.6	4.4	211	2.2	3.8	-12
Renting - Private	1,698	20.2	23.0	1,751	18.1	22.4	+53
Renting - Not stated	60	0.7	0.7	51	0.5	0.6	-9
Other tenure type	49	0.6	1.1	80	0.8	1.1	+31
Not stated	592	7.0	6.6	818	8.5	7.9	+226
Total households	**8,425**	**100.0**	**100.0**	**9,659**	**100.0**	**100.0**	**+1,234**

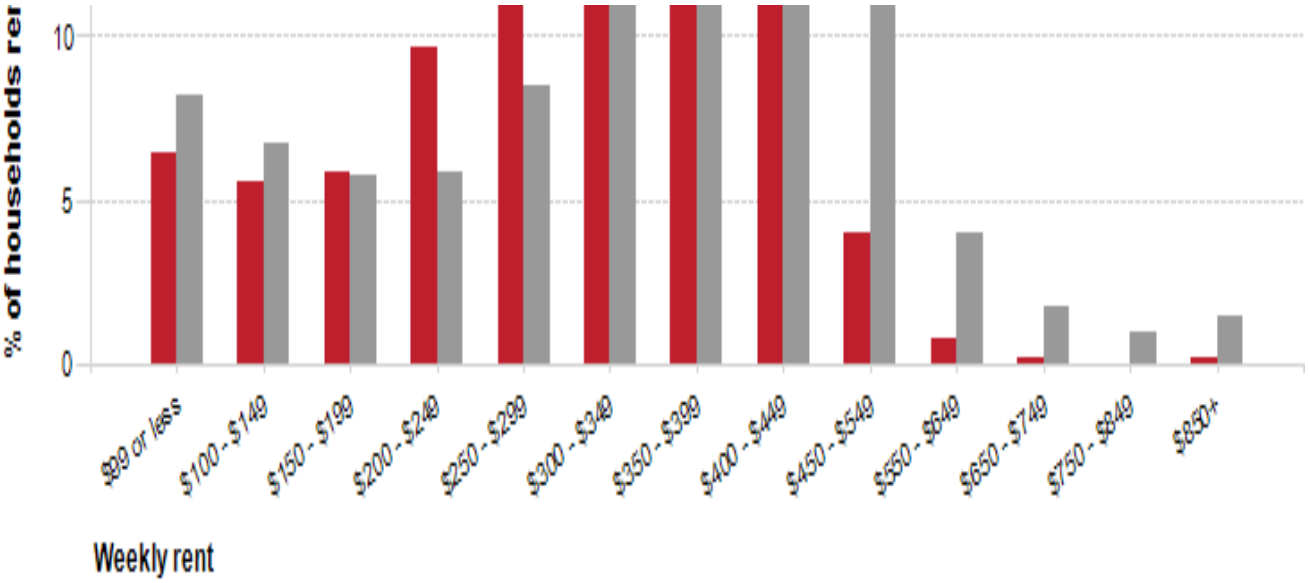
Source: Australian Bureau of Statistics, Census of Population and Housing (opens a new window) 2006 and 2011. Compiled and presented by id.

Figure 21: Monthly housing loan repayments 2011



Source: Australian Bureau of Statistics, Census of Population and Housing, 2016 (Enumerated data)
Compiled and presented in profile.id by .id, the population experts.

Figure 22: Weekly housing rental payments, 2011



Source: Australian Bureau of Statistics, Census of Population and Housing, 2016 (Enumerated data)
Compiled and presented in profile.id by .id, the population experts.

4.3.8 Settlement Profile

The Shire comprises eight rural town sites of which Harvey serves as the Shire's main administration centre. Australind has been classified as being a sub-regional centre that is considered to be part of the Greater Bunbury region. A brief description of these town sites has been listed below:

- ***Harvey*****:** - A major Town Centre and (in context of the Shire) is centrally located. The Shire's main Administration Centre and was previously the Shire's main activity centre before the urban development and expansion of Australind. Harvey is surrounded primarily by rural activities, which include dairy, beef and citrus.

- ***Australind*****:** - The Shire's main urban centre (which includes Kingston, Treendale and Clifton Park Estates) where the majority of the population reside. The population growth of the greater Australind area is heavily influenced by the expansion of the Greater Bunbury region. For the purposes of this Strategy, Leschenault will be considered part of the Australind centre because it is a rural residential area with no commercial facilities and adjacent to Australind.

- ***Brunswick Junction*****:** - In addition to being a local rural centre, Brunswick Junction is an important rail and freight link due to its strategic location at the meeting of the railway lines from Collie, Bunbury and Perth. Brunswick is a primary dairy cultivation and distribution centre.

- ***Binningup*****:** - Binningup is a small coastal residential area which began as a low key holiday settlement however has expanded to become a coastal suburban centre.

- ***Myalup*****:** - Myalup is a small coastal residential area which also began as a low key holiday settlement. Due to the topography of the area, retention of native vegetation and bushfire risks, this area has not been expanded.

- ***Cookernup*****:** - A small village settlement that has a general store and hall services.

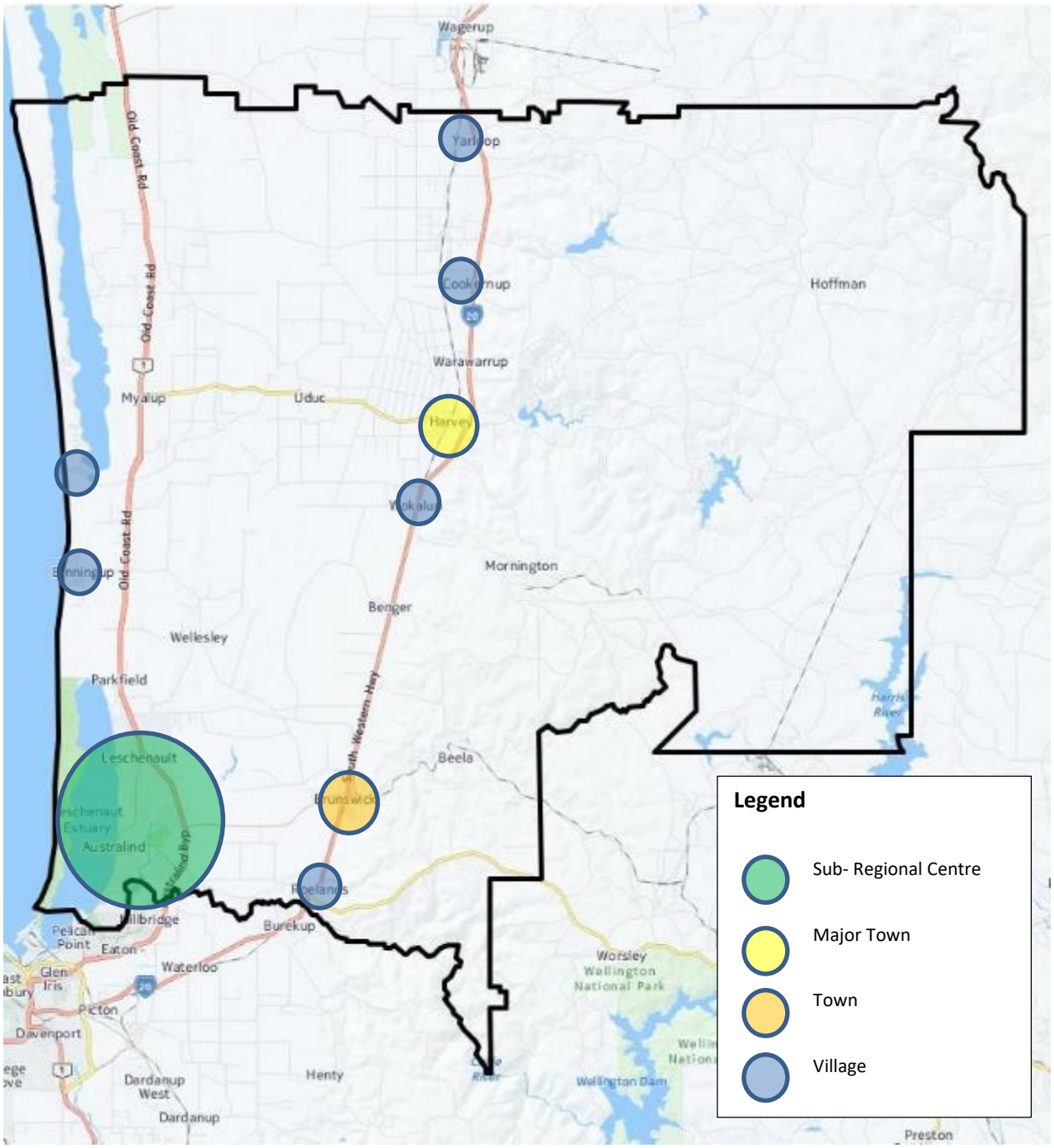
- ***Wokalup*****:** - A small village settlement which is focused on the service station/roadhouse and tavern which serves the travelling public and the local community.

- ***Roelands*****:** - Traditionally this community has been the centre for the irrigation maintenance workforce, however it is now a residential precinct. There is a catholic private primary school located within the area.

- ***Yarloop*****:** - Yarloop was once a renowned timber town since the late 1800's however the timber and forestry industry has since closed down. In 2016, a number of residential and historical buildings (including the Yarloop Timber Workshops) were destroyed as a result of the Yarloop/Harvey/Waroona January 2016 Fire. Redevelopment of the town is subject to the Yarloop Town Development Plan.

In addition to these areas, the Shire also has a number of small settlements with populations less than 300 persons and no local shopping facilities. These areas include Uduc, Warawarrup, Benger, Wellesley, Hoffman, Mornington and Beela. Further examination of the definition of these centres in context of the Greater Bunbury Region Strategy has been explored in Table 27.

Figure 23: Map of the Shire of Harvey showing location of settlements



Source: Map sourced from .id, 2015

Table 27: Settlement Hierarchy and population distribution

Settlement Type	Settlement	Current Population*	Current Growth rate	Estimated growth potential	Infrastructure and services	Commercial and Community	Key social, economic and environmental drivers
Part Regional**	Australind (including Leschenault)	14,843	High	High	Private and public primary and secondary schools, aged care facilities, bus connection to Perth, regional sporting facilities and local and district shopping facilities.	Regional, district and local	The greater Australind area is the main urban growth centre of the Shire being part of the greater Bunbury regional centre. It's located within close proximity to a wide employment sectors drawing primarily on commerce and industry in Bunbury, Kemerton Industrial Area, the Cristal Pigment Plant in Australind, Worsley Alumina refinery in the Shire of Collie and numerous rural industries throughout the Shire. There is also a growing service sector that are employed in surrounding local government areas but choose to live in Australind for its pleasant and convenient location adjacent to the Leschenault Estuary, Collie and Brunswick Rivers. It is also well serviced with schools and shopping and lies only 15-20 minutes away by car from the Bunbury Regional Centre.
Major Town	Harvey (including Mornington & Warawarrup)	3,268	Low	Medium	High school (including agriculture colleges), tertiary institution, local hospitals, aged care facilities and local administrative centres.	District and local	Services and administrative centres for their surrounding districts. The centres have potential for growth in value added, specialised and creative/innovative industries. Centres of agriculture, excellence in food, wine, sustainable industries to emerge. Their role as tourist and cultural centres, hosting a number of festivals and cultural events, will increase in importance.
Town	Brunswick Junction	1,218	Low	High	Local medical services, aged care facilities, primary school and local shopping facilities.	Local.	Service and/or administrative centres for rural areas only. These centres will develop their role as cultural centres of

Settlement Type	Settlement	Current Population*	Current Growth rate	Estimated growth potential	Infrastructure and services	Commercial and Community	Key social, economic and environmental drivers
							the region and will increase in importance for tourism based on their local and cultural identities. Brunswick Junction will provide an opportunity to accommodate residents employed in Bunbury. Diversification of industry to promote some value-adding and tourism. It has the capacity to accommodate increase in population, and support industries related to tourism and renewable energy.
Village	Cookernup	772	Low	Low	Primary schools in Roelands and Yarloop Local shopping facilities and aged care facilities. May have a local shop only. Some locations have limited tourism facilities.	Convenience services and community focus.	Small self-sustaining communities that rely on nearby towns for high order goods and services. The coastal settlements of Myalup and Binningup have a low-key residential and holiday role. These coastal towns, together with the Yarloop, have a distinct identity, character and role. These villages are known for their collaborative festivals, local culture and industries.
	Binningup	1,010	Medium	Medium			
	Myalup	399	Low	Low			
	Roelands	620	Low	Medium			
	Wokalup (including Benger)	438	Low	Low			
	Yarloop	482	Low	Low			

Source: South West Regional Planning and Infrastructure Framework (2014)
** Population data from ABS Statistics from basic community profile (state suburb), except for Australind (which the data collected was from "Australind – Leschenault – Statistical Area Level 2 (SA2))*
*** Australind is identified as being part of the broader Bunbury Regional settlement type, in accordance with the SWIRPF*

Land Demand and Supply Analysis: Residential

The population forecast analysis identifies that the population of the Shire will have a total population of 35,306 by 2031 (Forecast.id 2017). This population growth between 2016 and 2031 will result in an additional 6,672 households to be provided.

Table 28: Land Demand and Supply Analysis (Residential)

Planning Precinct	Precinct Area (ha)	Developable Area (ha)	Density (R-Code)	Lot Size (Min Avg)	Estimated Dwelling/ Lot Yield
Australind					
Residential 1 (RD1)	1.61ha	1.29ha	R20-R40	450m^2-220m^2	36
Residential 19 (RD19)	14.19ha	9.5ha	R20	475m^2-527m^2	180-200
Kingston					
Residential 2 (RD2)	9.0ha	N/A	R20	670m^2	158
Residential 3 (RD3)	18.43ha	N/A	R20	508m^2 – 950m^2	99
Residential 4 (RD4)	8.13ha	6.13ha	R20	500m^2	91
Residential 5 (RD5)	8.97ha	N/A	R20	733m^2	74
Residential 6 (RD6)	5.76ha	N/A	R12.5, R30 & R40	733m^2	63
South Treendale					
Residential 7 (RD7)	79.3ha	50.97ha	R30	330m^2	904
Subtotal					*1,605-1,725*
Binningup					
Residential 8 (RD8)	200ha	200ha	R30	330m^2	3,387
Residential 9 (RD9)	19ha	9.44ha	R15	666m^2	114
Subtotal					*3,501*
Brunswick Junction					
Residential 10 (RD10)	4.8ha	3.6ha	R15	666m^2	54
Residential 11 (RD11)	37.5ha	18.13ha	R15	666m^2	343
Low Density Residential 1 (LD-RD1)	7ha	5.25ha	R5	2,000m^2	15
Subtotal	*132.49ha*	*86.36ha*			*412*
Harvey					
Residential 12 (RD12)	14.77ha	11.08ha	R15	666m^2	102
Residential 13 (RD13)	9.22ha	7.38ha	R15	666m^2	82
Residential 14 (RD14)	33.92ha	25.44ha	R15	666m^2	239
Residential 15 (RD15)	22.15ha	16.61ha	R15	666m^2	165

Planning Precinct	Precinct Area (ha)	Developable Area (ha)	Density (R-Code)	Lot Size (Min Avg)	Estimated Dwelling/ Lot Yield
Residential 16 (RD16)	50ha	33.94ha	R15	666m^2	310
Residential 17 (RD17)	39.49ha	29.62ha	R12.5	800m^2	226
Low Density Residential 2 (LD-RD2)	7.98ha	N/A	R5 – R10	1,500m^2	31
Low Density Residential 3 (LD-RD3)	7.75ha	5.81ha	R5 – R10	1,500m^2	40
Low Density Residential 4 (LD-RD4)	2.13ha	1.70ha	R5	3,000m^2	6
Subtotal					*1,201*
Myalup					
Subtotal					*N/A*
Roelands					
Residential 18 (RD18)	18.84ha	14.13ha	R15	666m^2	145
Low Density Residential 5 (LD-RD5)	52.77ha	34.30ha	R2	5,000m^2	41
Subtotal					*259*
Yarloop					
Subtotal					*N/A*
Residential Total					***6,978-7,098***

Notes:

1. *The above lot/dwelling yield figures are indicative estimates only that seek to identify the subdivision potential only of those precincts. Further studies and analysis will still need to be undertaken to determine an appropriate lot yield based on site and policy constraints. The lot/dwelling yield figures as indicated in this table were based on figures provided by the Department of Planning, Lands and Heritage.*

2. *Based on the above 6,833 * 2.62 (number of people per household predicted for 2,031) = 17,902 additional people.*

4.4 Economy Profile

4.4.1 Education and Qualifications

The education and qualifications of the population in the Shire has been shown in Table 28.

Table 28: Highest qualification achieved

	2011			2006			Change
Qualification level	Number	%	WA %	Number	%	WA %	2006 to 2011
Bachelor or Higher degree	1,663	9.3	17.5	1,262	8.4	14.4	+401
Advanced Diploma or Diploma	1,236	6.9	8.1	898	6.0	7.4	+338
Vocational	4,520	25.3	19.5	3,255	21.7	17.6	+1,265
No qualification	8,678	48.5	43.3	7,780	51.9	46.8	+898
Not stated	1,797	10.0	11.6	1,792	12.0	13.8	+5
Total persons aged 15+	**17,894**	**100.0**	**100.0**	**14,987**	**100.0**	**100.0**	**+2,907**

Source: Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011. Compiled and presented by .id (2015)

Based on the data above, the following trends and patterns have been identified:

- there is a lower proportion of people that have Bachelor or Higher degrees (9.3% compared to 17.5%) and Advanced Diplomas or Diplomas (6.9% compared to 8.1%);
- there is a larger proportion of people that have vocational qualifications (25.3% compared to 19.5%) and no qualifications (48.5% compared to 43.3%); and
- between 2006 and 2011, there is a growing proportion of people with Bachelor or Higher degrees and Advanced Diplomas or Diplomas vocational qualifications and a reduced proportion in the number of people with no qualification.

4.4.2 Industry sector of Employment

According to Table 29 (2011 Census data), the three main industry sectors of employment in the Shire were manufacturing, construction and retail trade. In comparison to the rest of the State, in 2011 the other main industry sector was health care and social assistance (10.4%). When comparing this data with the 2006 figures, the following trends and patterns have been identified:

- the percentage of people working in the manufacturing sector dropped from 19.2% (in 2006) to 17.8% (in 2011), despite the increased number of people working in that sector;
- this also relates to retail trade (10.9%), whereby the percentage of the population working in retail trade dropped from 11.1% to 10.9% but the number of people working in that sector increased.
- the number of people and percentage of people working in the construction industry has grown from 11.2% in 2006 to 12.6% in 2011;
- the sectors that had the greatest increase in terms of actual population was construction (350 more people), health care and social assistance (227 more people), and mining (206 more people); and
- the agriculture, forestry and fishing sector dropped from 6.4 percent to 4.8 percent.

Table 29: Industry sector of employment

	2011		WA	2006		WA	Change
Industry sector	Number	%	%	Number	%	%	2006 to 2011
Agriculture, Forestry and Fishing	523	4.8	2.4	589	6.4	3.3	-66
Mining	505	4.6	6.2	299	3.2	4.3	+206
Manufacturing	1,943	17.8	8.2	1,772	19.2	9.4	+171
Electricity, Gas, Water and Waste Services	224	2.0	1.1	154	1.7	1.0	+70
Construction	1,382	12.6	10.2	1,032	11.2	9.1	+350
Wholesale trade	241	2.2	3.6	280	3.0	4.0	-39
Retail Trade	1,193	10.9	10.1	1,044	11.3	11.1	+149
Accommodation and Food Services	478	4.4	5.9	397	4.3	5.8	+81
Transport, Postal and Warehousing	446	4.1	4.5	328	3.6	4.2	+118
Information Media and Telecommunications	60	0.5	1.1	59	0.6	1.3	+1
Financial and Insurance Services	162	1.5	2.5	143	1.5	2.9	+19
Rental, Hiring and Real Estate Services	150	1.4	1.7	163	1.8	2.0	-13
Professional, Scientific and Technical Services	355	3.2	7.2	260	2.8	6.3	+95
Administrative and Support Services	248	2.3	3.1	212	2.3	3.2	+36
Public Administration and Safety	486	4.4	6.2	443	4.8	6.4	+43
Education and Training	860	7.9	8.0	664	7.2	7.7	+196
Health Care and Social Assistance	969	8.9	10.4	742	8.0	10.2	+227
Arts and Recreation Services	103	0.9	1.3	90	1.0	1.2	+13
Other Services	398	3.6	3.9	339	3.7	3.8	+59
Inadequately described or not stated	216	2.0	2.2	225	2.4	2.7	-9
Total employed persons aged 15+	10,942	100.0	100.0	9,235	100.0	100.0	+1,707

Source: Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011. Compiled and presented by .id (2015)

4.4.3 Occupation Type

As shown in Table 30, the residents of the Shire are involved in a number of diverse occupations, and no one occupation field is described as dominant (Profile.id 2015). The following trends have been noted:

- almost 30% of the total workforce was employed as Tradespersons, Labourers and associated workers; and
- there is also a strong contingent in the professional fields associated with Managers and Administration, Professionals and associated professionals (34% of the workforce).

Table 30: Occupation of employment

	2011		WA	2006		WA	Change
Occupation	Number	%	%	Number	%	%	2006 to 2011
Managers	1,286	11.8	12.2	1,170	12.7	12.5	+116
Professionals	1,396	12.8	19.9	1,105	12.0	18.6	+291
Technicians and Trades Workers	2,144	19.6	16.7	1,799	19.5	16.4	+345
Community and Personal Service Workers	890	8.1	9.4	723	7.8	8.9	+167
Clerical and Administrative Workers	1,353	12.4	14.4	1,100	11.9	14.5	+253
Sales Workers	910	8.3	8.6	871	9.4	9.4	+39
Machinery Operators And Drivers	1,202	11.0	7.6	930	10.1	7.3	+272
Labourers	1,608	14.7	9.7	1,387	15.0	10.9	+221
Inadequately described	154	1.4	1.5	149	1.6	1.6	+5
Total employed persons aged 15+	10,943	100.0	100.0	9,234	100.0	100.0	+1,709

Source: Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011. Compiled and presented by .id (2015)

4.4.4 Labour force / employment

The Shire has a diverse and wide economic base. A snapshot of other key statistics has been highlighted below:

- the Shire's Gross Regional Product is estimated at $1.03 billion, representing 0.4% of the State's Gross State Product;
- there were 1,614 local business registered in 2014;
- in 2014 there were 7, 248 local jobs within the Shire and 13,036 employed residents;
- in June 2015, the unemployment rate for the Shire was 3.58%; and
- of the 5,177 people who worked in the Shire, 3,559 (68.7%) also live in the area. (id 2015).

4.4.5 Weekly Income by Individual, Family and Household

The population of the Shire has experienced a steady increase in actual weekly incomes between 2006 and 2011. In 2011 the median family income was $1,683 per week (compared to $1,259 per week in 2006), the median total household income was $1,464 per week (compared to $1,147 per week in 2006), and median personal income was $598 per week (compared to $473 per week in 2006).

4.5 Industry

The Shire contains major industrial activities, which are characterised as processing centres for materials that are obtained from outside of the district. The major industrial site is the Kemerton Strategic Industrial Area which is located 19 km south west of Harvey and contains the Tronox (formerly Cristal) Titanium Dioxide Pigment Plant, Simcoa Silicon Plant and Albemarle's Lithium Plant which is still under constructed. It is the principal regional industrial site and is expected to attract further development.

There are major refineries located immediately adjacent to the Shire's Municipal boundaries at Wagerup (Alcoa) and Worsley. Sand mining is occurring along the South Western Highway corridor from Benger to Yarloop.

These industries, in conjunction with existing local industries such as the Tronox Titanium Dioxide Pigment Plant, Harvey Beef Abattoir, Peters Dairy and Harvey Fresh provide a large part of the economic wellbeing and employment within the Shire. Light industrial areas are located both at Harvey and Australind with a further zoned and partially developed area at Brunswick Junction.

Whilst the mining leases for Alcoa's Pinjarra and Wagerup refineries fall within the Shire's eastern boundary, the Strategy will not impact on these.

4.5.1 Key Localities

4.5.4.1 Australind

The Australind Light Industrial Area (LIA) adjacent to Forrest Highway is mostly undeveloped and will provide adequate "Light Industry" zoned land in the short – medium term. As such, no additional land is proposed for industrial uses within the Australind locality.

With respect to Lot 561 Paris Road, Australind, consideration may be given to a proposal for land use change within a component of this site to residential use (with limited commercial) if it can be demonstrated that the current zoned industrial land to be supplied at Australind LIA would represent a surplus of industrial zoned land for the medium to longer term land needs within the locality.

Any proposal for a change in land use through an amendment to the Strategy will only be considered following consideration of a properly prepared and researched industrial lands assessment to address the demand for light industrial uses within the locality. Such assessment must take into account the following:

- urban growth and population trajectory and planning timeframe for the East of Treendale land holdings as a consideration of further demand for LIA land in this locality;
- the need to provide appropriate ratios of employment to population land to ensure a sustainable long-term framework for settlement growth;
- need to maintain appropriate levels of service to the local population through the supply of industrial zoned land uses to match population growth in the area;
- the suitability of the site for light industrial land use as opposed to residential land use given its location, context and excellent transport connections; and
- any relevant WAPC policies regarding activity centres and/or commercial development.

If supported, any change of land use to residential will require a zoning amendment and structure planning proposal.

While expansion of retail uses at the site would not generally be supported, any limited commercial or limited retail proposed for the site, if supported, should be limited in scale and be incidental to the existing Rural Produce Distribution Centre use so as not to impact on the existing recognised centres of Eaton, Treendale, Ditchingham Place Service Commercial and Australind centre.

Lots 350 and 355 Old Coast Road are by the Titanium Oxide Plant operated by Tronox (formerly Cristal). Development of these sites is largely controlled by State Government however, relocation of the facilities to Kemerton is considered more appropriate by the Shire and consistent with community and the Shire's expectations.

4.5.4.2 Brunswick

Brunswick has an established industrial area which consists of both "General Industry" and "Light Industry" zoned properties. These are generally clustered in a corridor running along the South Western Highway south of the George Avenue intersection. There is approximately 27ha of available industrial zoned land on Lot 200 which is largely undeveloped. It is considered that the available land for industrial purposes in Brunswick is sufficient for future needs within the existing zoned properties.

Lot 300 George Avenue is zoned "Residential", however contains an area of approximately 6ha which is used for settling ponds associated with the milk processing plant on Lot 2 South Western Highway (corner George Avenue). Consideration will need to be given to the long-term use of the site for residential, industrial or mixed use at the Scheme review stage. The settling ponds are in proximity to nearby residences, the closest of which is approximately 280m away. Under the EPA Guidelines, the recommended separation distance between milk processing and the nearest sensitive land uses is 200-500m.

4.5.4.3 Harvey

Industrial land in Harvey is located within the Harvey Light Industrial Area (LIA) which contains properties which are zoned both "General Industry" and "Light Industry". The locality is mostly developed with only two "General Industry" lots remaining undeveloped. The "Light Industrial" lots have not been developed at this stage. Additional industrial land should be made available in the Harvey to Wokalup vicinity to provide for economic growth, however the expansion of the current LIA is not considered appropriate due to the existence of residential properties to the south-east, bushfire hazards and surrounding areas of native vegetation. Furthermore, the existence of cap-rock in the LIA makes earthworks and drainage challenging.

There is the need for flat accessible industrial land within the vicinity of the Harvey or Wokalup townsites to cater for local demand for rural industry uses such as heavy haulage transport depots and farm machinery related businesses. Further investigation should seek to identify appropriately located land for this purpose. This potential industrial area would need access to existing haulage routes such as Uduc, Forestry and Hocart Roads and be a suitable distance from the Harvey townsite.

4.5.4.4 Kemerton Strategic Industrial Area

The Kemerton Strategic Industrial Area (KSIA) is located 19 km southwest of Harvey and contains heavy industrial developments including the Cristal Titanium Dioxide Pigment Plant, Simcoa Silicon Smelter, Coogee Chemical chlorine gas and sodium hydroxide plant, Boc Gases, Cockburn Cement's lime hydration plant, Water Corporation Kemerton Wastewater Treatment Plant, Albemarle's Lithium Plant currently under construction and multiple power generation facilities. Kemerton is the primary strategic industrial area for the region and is expected to attract further downstream processing development opportunities.

The KSIA Structure Plan provides a planning framework and the implementation requirements to guide future development within the Strategic Industrial Area. The overall objective of the Structure Plan is to enable the establishment of resource processing industries and associated supporting activity in order to fulfil Kemerton's designated role as the primary strategic industrial area for the South-West region.

The KSIA also includes the Kemerton Industry Buffer zone, within which incompatible land uses should not be permitted. A former piggery and an abattoir use, which formerly operated within the buffer zone, have now ceased. Land uses with the potential to negatively impact upon the core industrial uses at Kemerton should be located to more suitable zones where off site impacts can be managed and compatibility with surrounding land uses can be maintained.

4.5.4.5 Yarloop

Yarloop contains a significant "General Industry" zoned property on the northern side of Johnston Road which was the site of the former timber mill. The site is currently being used for machinery storage and processing of vegetables and will continue to be used as an industrial site into the longer term. On the southern side of Johnston Road, are 10 lots zoned as "Light Industry", which contain a mixture of light industry businesses, residential dwellings and several vacant lots.

Land Supply Analysis: Industrial

Table 29: Land Supply Analysis Industrial

Planning Precinct	Precinct Area (ha)	Developable Area (ha)	Lot Size (Min Avg)	Estimated Lot Yield	Notes
General and Light Industry					
Australind Light Industrial Area (LIA1)	18.43ha	N/A	1500m^2 – 4600m^2	137	The estimated lot yield was based on an approved subdivision plan.
Brunswick Industrial Area (ID1)	72.94ha	27 ha (Lot 200 only)	3,000m^2 to 10,000m^2	26 – 65	
Yarloop existing Industrial Area (ID3)	23.3ha	23.3ha	3,000m^2 to 10,000m^2	23 – 77	There is no proposed expansion of the existing Yarloop Industrial area. The figures provided indicate the potential subdivision potential only.
Subtotal	*164.77ha*			*186 - 279*	
Heavy Industry					
Kemerton Strategic Industry Park (KSIP)	7,508ha	N/A	4,000m^2 to 71ha	157	The estimated lot yield was based on a subdivision concept (figure 20) of the Kemerton Strategic Industry Area Structure Plan.
Total	***7,672.77ha***			***343 - 436***	

4.6 Retail and Commerce

The Strategy Maps identify proposed locations for expansion of commercial activities and identifies three key Activity Centres - the Harvey Town Centre, Australind Village Centre (Neighbourhood Centre) and the Treendale District Centre. Currently in DPS No. 1, there are several zonings related to commercial activities including "Shop", "Office" and "Other Commercial – Showroom". Given the current similarity of uses permitted within each zone, it is considered appropriate that the "Shop" and "Office" zones be combined to a single "Commercial" zoning under LPS No. 2. "Other Commercial – Showroom" will be retained and will relate specifically to the retailing and wholesaling of larger goods (e.g. white goods, car sales etc.). In addition, it would be appropriate to consider mixed use residential and commercial developments within the Town Centre locations.

4.6.1 Main Town Centres

4.6.1.1 Australind Town Centre (Neighbourhood Centre)

The Australind Town Centre consists of a number of individual lots which are owned both privately and by the Shire. The Australind Village Centre on Lot 225 is zoned "Shop" with additional use rights listed in Schedule 7 of DPS No. 1. The other privately owned lots in the precinct are zoned "Shop" or "Office" and Lot 208, which is owned freehold by the Shire is zoned "Special Use – Other Community".

The lots comprising the Australind Village Centre are fully developed, consisting of built form and car parking. Any expansion would need to be vertical and would require the provision of additional parking which is currently at capacity. Vertical expansion may be unviable at present however an increase in the permissible uses can be achieved by rezoning all lots within the centre to "Commercial". This is consistent with the recommendations of the WAPC's Activity Centre Policy and the objective of creating a diverse built environment through mixed-use planning.

In the longer term, the retail capacity of the Town Centre may be able to increase through appropriate mixed-use development of Lot 210 Mulgara Street, (owned by the Shire) which is immediately east of the existing shopping centre.

4.6.1.2 Binningup

There are currently three lots in Binningup which are zoned as "Shop" located in a cluster along Ilyarrie Street. The Binningup General Store occupies one of the lots with the other two remaining vacant. The current zoning of "Shop" will be amended to "Commercial" under LPS No. 2.

The Binningup Beach Local Structure Plan includes the provision of a "Village Centre" which may provide up to 900m² of retail floor space. It is considered that this Centre will cater for the additional population created by the new development, whilst the existing town centre will service the population to the north. Both commercial centres should be well connected, catering for all modes of transport, whilst establishing their own individual but complementary sense of place.

4.6.1.3 Brunswick

The majority of properties located in the Brunswick main street are zoned “Shop”, however there are a number which are not currently occupied. As such, it is recommended that no additional properties be identified for commercial purposes in order that existing properties are fully utilised. Whilst additional commercial properties are not required in the short – medium term, rezoning existing properties from “Shop” to “Commercial” will provide a greater mix of available uses and may be a sufficient catalyst to reduce current vacancies.

4.6.1.4 Cookernup

Currently there is one property in Cookernup zoned “Shop”. Due to the low residential density in Cookernup, it is considered that this is sufficient to service the community for the short – medium term and therefore no further expansion is proposed. Notwithstanding, the existing property is to be rezoned to “Commercial” in LPS No. 2.

4.6.1.5 Harvey

The Harvey townsite contains a vibrant commercial centre with “Shop” zoned properties generally located along Uduc Road, Hayward Street and Harper Street and “Office” zoned properties along Becher and Gibbs Streets. Consistent with recommendations contained in the previous sections of this Strategy, it is considered that these two zonings be combined to create a single “Commercial” zoning. This has the potential to result in additional shops being located on the side streets of Becher and Gibbs Streets, however, it is considered that both uses are compatible.

To ensure the continuing dominance of Uduc Road as the main commercial street within Harvey, Lots 12 – 14 and 34 currently zoned “Residential” between Harper Street and Sutton Street on the northern side of Uduc Road should be rezoned to “Commercial” in LPS No. 2. Although currently used as residences, non-conforming use rights would apply which would enable their ongoing use for residential purposes, until such time as demand dictates a change in use.

The area bound by Newell Street, Herbert Road, Buckby Road and Young Street is predominantly zoned “Other Commercial – Showroom” with one property zoned “Special Use” (church) and six “Residential” zoned properties. The six residential properties are to be rezoned to “Other Commercial – Showroom” to provide for additional growth. Although currently used as residences, non-conforming use rights would apply which would enable their ongoing use for residential purposes until such time as demand dictates a change in use.

A portion of Lot 500 (No. 107) Uduc Road (Harvey Police Station) is zoned “Residential” with the remaining section being zoned “Special Use - Other Community”. It is recommended that this be amended in LPS No. 2 to make the entire lot “Special Use - Other Community”. The remaining residential lot on the corner of Young and Newell Streets will be rezoned to “Commercial” to match adjoining properties.

4.6.1.6 Roelands

Lots 12 and 13 Government Road, Roelands are both partially zoned “Shop”. In the short - medium term, this amount of commercial zoned land may be sufficient, however, it is considered appropriate to rationalise the zonings so that all of Lot 12 is zoned “Commercial”, and the entirety of Lot 13 is zoned “Residential”.

4.6.1.7 South Treendale

The South Treendale Structure Plan depicts a commercial site on the south-western boundary abutting The Boulevard. The Treendale District Centre is required to retain its commercial dominance within this locality, however, there is an opportunity to provide for additional commercial land within the vicinity of the Brunswick River, particularly for uses such as restaurants, cafés, higher density residential and recreation. This could be achieved as part of "mixed-use" development with a vertical separation of commercial and residential uses. This outcome would further promote a healthy built environment within the Greater Australind locality.

4.6.1.8 Treendale District Centre (District Centre)

The Treendale District Centre Structure Plan outlines the future growth of the commercial precinct and includes, but is not limited to, the provision of a mix of residential, retail, office, mixed-use, food and entertainment and community uses, amongst others. The first stage has been constructed and it is anticipated that the Structure Plan will provide suitable guidance for the ongoing development of this precinct. It is considered important to retain or increase building bulk and residential densities around the District Centre which will ensure the ongoing viability of the commercial precinct which may be achieved through the introduction of an "Activity Centre" zone. Further research regarding the most appropriate means of implementing this zoning will be required during the preparation of LPS No. 2.

4.6.1.9 Kingston (Neighbourhood Centre)

Lot 9020 Leisure Drive, within the Kingston Estate, is dedicated for a local shopping centre under the Kingston Structure Plan and identified as a Neighbourhood Centre within the WAPC's Activity Centre Policy. The site is yet to be developed.

4.6.1.10 Wokalup

There are currently no commercial zoned properties in Wokalup, however there are four sites on South Western Highway with commercial uses being permitted:

- Lot 36 – portion zoned "Special Use – Service Station";
- Lot 13 – portion zoned "Special Use – Additional Use No. 1" (allowing for an "Eating House", "Craft Studio" and "Shop";
- Lot 56 – portion zoned "Tourist"; and
- Lot 100 – zoned "Special Use – Hotel".

It is recommended that the eastern portion of Lots 13 and Lot 56 be rezoned to "Residential" in LPS No. 2.

4.6.1.11 Yarloop

The Yarloop townsite currently contains seven lots zoned "Shop" which are located along Station Street. Some premises survived the Yarloop/Harvey/Waroona January 2016 Bushfire, while most of the lots are now vacant. Redevelopment of the commercial premises is to be guided by the Yarloop Town Development Plan.

There is one single property zoned "Special Use - Other Community" on the corner of Station Street and Kendall Street, which has been developed as a shop, that should be rezoned

"Commercial" or "Public Purpose" under LPS No. 2. Consideration is to be given to allowing for residential development on commercially zoned lots.

Land Demand and Supply Analysis: Retail and Commercial

Table 30: Land Demand and Supply Analysis: Retail and Commercial

Planning Precinct	Hierarchy of Centre	Precinct Area (ha)	Current Floor Space	Estimate Floor space (Net Lettable Area – NLA)	Anticipated Release	Notes
Australind Village Centre (AC1)	Neighbourhood	8.3ha	~9,370m^2	15,000m^2	Medium term	
Harvey Town Centre (AC2)	Town (Major)	4.8ha	~2,500m^2	5,000m^2	Medium term	
Subtotal		*13.1ha*		*20,000m^2*		
Addition Areas – Not identified as precincts						
Treendale District Centre	District	12.1ha	10,107.3m^2	20,000m^2	Short term	Development shall be as per the approved Treendale District Structure Plan
Kingston Neighbourhood Centre	Neighbourhood	3.03ha	N/A	4,500m^2	Medium to long term	The current Kingston Structure Plan allocates 4,500m^2 NLA. A new structure plan may be required prior to development.
South Treendale	Local	1.82ha	N/A	5,000m^2	Short to Medium term	Development shall be as per the approved Treendale Structure Plan and South Treendale Structure Plan
Subtotal		*16.95ha*		*29,500m^2*		
Commercial Total		***43.15ha***		***49,500m^2***		

4.6 Tourism and visitors

Tourism is an important industry in the South West region. According to Tourism WA (2014), tourism contributed $1.587 billion to the region economy. The summary of key trends is shown in Table 31.

Table 31: Australia's South West Visitor Summary Year ending December 2014

	Spend $ million	Visitors '000	Nights '000	Avg Stay Nights	Avg Trip Spend $	Avg Nightly Spend $
Intrastate Overnight	1,008	2,105	6,680	3.2	479	151
Interstate Overnight	97	124	620	5.0	782	156
International Overnight	138	128	2,043	16.0	1,080	67
Intrastate Daytrips	345	2,996	n/a	n/a	115	n/a
TOTAL	*1,587*					

Source: Tourism Research Australia – National Visitor Survey (Visitors aged 15+ years); International Visitor Survey (Visitors aged 15+ years). Note that visitor numbers, nights and spend are estimates based on the results of the surveys.

The *Planning Tourism Guidelines 2014* and Planning Bulletins 83, 99 and 49 outlines the State's planning policy position for tourism in Western Australia. These documents also provide guidance to strategic planning and statutory decision making. Some of the key aspects of these documents that relate to the Shire include:

- the need to protect and promote caravan and camping sites,
- ensure consistent approach to the development of tourism sites and facilities, and
- provide for flexibility in the design and assessment of tourism and mixed use development.

In order to encourage the growth of tourism in the Shire, it is considered a broad and flexible approach should be adopted which recognises the various forms that tourism development may take. This Strategy recommends the adoption of a broad approach to tourism that:

- Provides considerable flexibility in relation to the uses that can be carried out in appropriate zonings;
- Inherently provides for the delivery and physical dispersal of tourism related activities;
- Promotes tourism in competition with other land use activities;
- Protect existing caravan and camping parks;
- Recognises tourism as an activity that can be provided as part of a mixed-use offering;
- Introduces levels of assessment that support the delivery of tourism related outcomes where appropriate.

DPS No. 1 contains a "Tourist" zone as well as tourism type uses within other zonings such as "Bed & Breakfast" or "Short-Stay Accommodation". In developing a broad approach to tourism, it is considered that more flexibility is required to encourage a mixed-use approach, for example a rural property may also be developed with accommodation and/or recreational activities, whilst retaining use for its predominance as a rural lot.

It is recommended that the existing "Tourist" zoning contained within DPS No. 1 be redefined as "Tourism" (in accordance with the Planning and Development (Local Planning Regulations) 2015) for those properties which are specific to this purpose (e.g. caravan parks), whilst expanding the permissibility of tourist type uses across the Shire. All uses will be need to be considered on merit and Scheme provisions developed to address issues of servicing, visual

amenity, retention of predominant land use and the mitigation of land use conflict within and external to the development.

The development of passive and active recreation which caters for all user groups should not be the sole responsibility of private industry. The Shire has many natural and built assets both on freehold land and on land Reserved for Recreation. Their ongoing development will encourage a healthy balance between the built and natural environments. In addition, creating a variety of destinations and activities will facilitate a sense of community wellbeing and improved interaction between residents and tourists. An example of where a dedicated tourism precinct may be established is within the vicinity of the Harvey Dam.

4.6.1 Point Douro – Lots 50 and 51 Old Coast Road, Australind

Lots 50 and 51 (previously Lot 30) Old Coast Road are located on the Leschenault Estuary, with frontage to the Old Coast Road on its eastern boundary.

In 1997, the Shire initiated Scheme Amendment No. 13 to District Planning Scheme No. 1 to rezone the site to facilitate a canal based residential and tourist development, including a conservation area and commercial node. Following initiation of this amendment, the proposal was referred to the EPA for assessment. The EPA determined that an Environmental Review was required, which was subsequently undertaken and endorsed by the EPA for advertising in 2000.

The amendment was advertised in conjunction with the Environmental Review in late 2001 for a period of 60 days, during which a large number of submissions were received. In 2004, Council advised the WAPC that due to the complexity of the submissions received no formal consideration of them had been made and that it was awaiting further advice from the Department of Environment.

In response to the public submissions, in December 2007, the EPA released Bulletin 1275, which outlined its report and recommendations on the proposed canal development on the site. The EPA determined that the development could be implemented, subject to a number of detailed plans being prepared for approval by relevant State agencies and the Shire, including;

- Environmental Management Plan (addressing the management of the foreshore and conservation reserves, terrestrial fauna and waterbird protection, and control of mosquito nuisance);
- Sea level rises and Climate Change
- Acid Sulphate Soils Management Plan;
- Water Management Plan (including surface and ground water quantity and quality); and
- Construction Management Plan.

In late 2009, the applicant proposed to remove the canal component of the Scheme Amendment, which would have required readvertising or a new amendment. The Amendment has since been withdrawn.

Recently, Lot 51 was purchased by the Western Australian Planning Commission, with the intent to reserve the land for “Regional Open Space” and “Waterways” and include it within the Leschenault Regional Park.

4.7 Recreation and open space

4.7.1 Public Open Space

In addition to dedicated sporting grounds, the Shire is also responsible for a range of other areas of public open space which includes both passive and active areas for recreation. The Shire has recently completed project works for the boat ramp at Ridley Place, Australind.

As part of the subdivision process, developers are required to provide 10% of the developable area for Public Open Space (POS) free of charge. Where a development is of a scale or is in a location where the provision of POS is not appropriate, the landowner may be required to make payment to the Shire of an amount equivalent to the value of 10% of the developable land which is then contributed to POS provisions within the local area.

The facilities available and size of the public open spaces across the Shire have been designed in accordance with the requirements of Liveable Neighbourhoods.

4.7.2 Regional Open Space

The Greater Bunbury Region Scheme reserves a number of areas throughout the Shire as Regional Open Space (ROS). These areas have been identified as having regional significance and often are located in areas where environmental protection is warranted such as along foreshore reserves and river corridors.

4.7.2.1 Leschenault Regional Park

In 2015, the Western Australian Planning Commission released the Leschenault Regional Park Draft Establishment Plan for public comment. The plan had proposed to establish a second regional park for the Greater Bunbury Region, which would compromise of the Leschenault Estuary, Leschenault Inlet and the riparian zones of the Collie, Brunswick and Preston Rivers.

The Leschenault Regional Park Establishment Plan was adopted in July 2017 for an area of 2,278ha.

The area is considered regional significant because of its high conservation and recreation values and its proximity to the Perth and Bunbury regions and neighbouring rural districts. The Establishment Plan proposes that the area is defined into three broad management zones:

- **Conservation and protection** - represents the remnant vegetated areas of high conservation and landscape value. These areas have been subject to minimal intrusion, are in a relatively natural state and will be managed to prevent disturbance to the bushland environment by restricting public access through the area

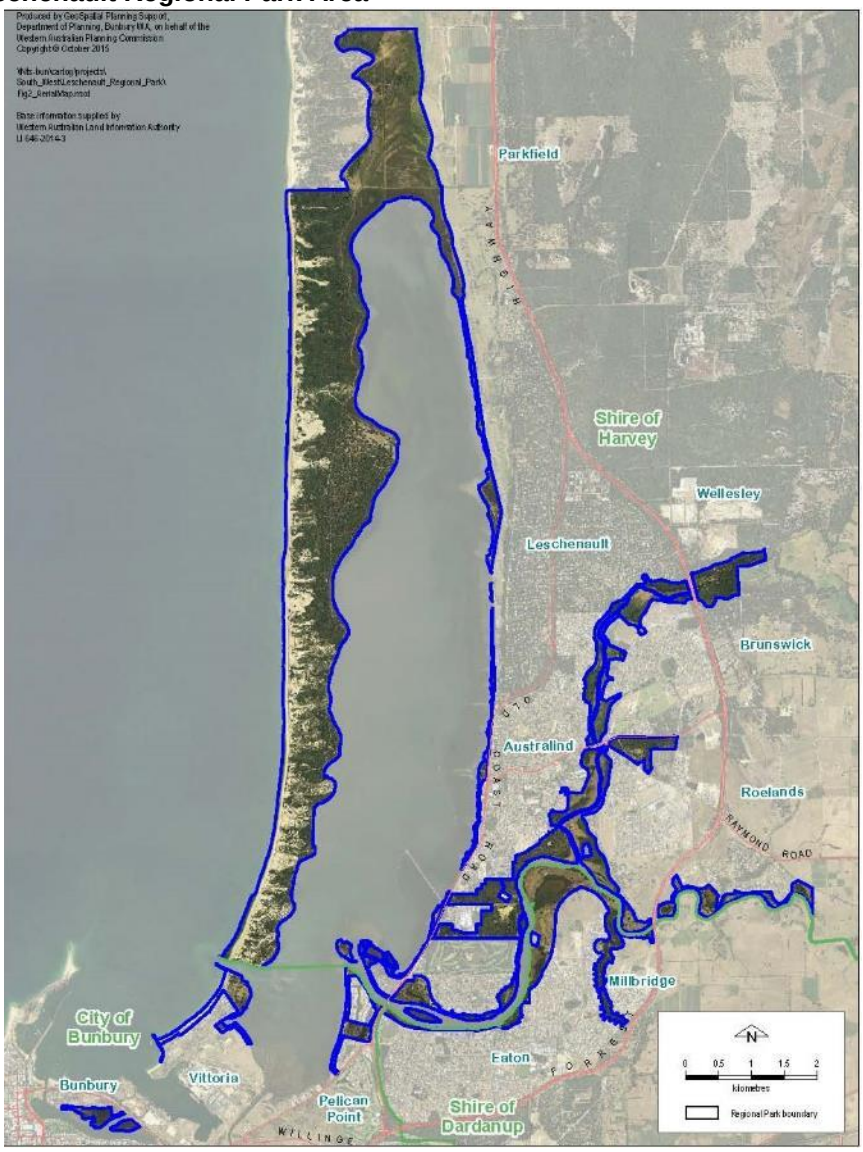
- **Natural environment uses** - refers to areas that have some level of developed amenity, are subject to significant visitor numbers and are used as access for low impact recreation purposes that do not significantly adversely affect the natural environment.

- **Recreation** - refers to areas set aside for passive and active recreation and may include built facilities such as public toilets, irrigated grassed playing fields, barbeque sites, boat ramps and playgrounds.

The type and scale of any facilities provided will depend on the conservation values of the surrounding area, community demand and appropriate management of the park.

The Management Plan for the Park is currently being prepared.

Figure 24: Leschenault Regional Park Area



Source: Leschenault Regional Park Draft Establishment Plan 2016

4.8 Community facilities

4.8.1 Sporting facilities

4.8.1.1 Leschenault Leisure Centre & Recreation Reserve

The Leschenault Leisure Centre (LCC) and Recreation Reserve is a regional sporting facility in Australind. The LLC is an indoor facility which contains swimming pools, indoor courts (squash, netball, basketball, and indoor soccer), a gymnasium, and function rooms. The centre is also used for a number of sporting activities such as gymnastics and Tae Kwan Do.









Source: Taekwando Central 2015 (left)

The Recreation Reserve consists of 19ha of open playing fields which are utilised for a wide variety of sporting and recreational activities, including soccer, Australian rules football, cricket and rugby. The Leschenault Recreation Park Pavilion was completed in 2015 and is managed by the Leschenault Sporting Association.



Source: ABC 2016 (left)

In cases of emergency, the LLC has also been used as an evacuation centre.

4.8.1.2 Harvey Recreation Centre and Recreation Grounds

The Harvey Recreation and Cultural Centre are located on the showgrounds in Harvey and contain indoor courts, a gymnasium and a function room. A range of sports are played on the adjacent ovals including football, hockey and cricket.

4.8.2 Other Community facilities

In addition to the two major regional facilities, there are a number of community facilities within the Shire, including:

- Dr Peter Topham Memorial Swimming Pool
- Libraries at Australind, Binningup, Harvey and Yarloop
- Roelands Hall
- Stanton Park (old Golf Course)
- Stirling Cottage Gardens
- Yarloop Sports Pavilion
- Australind Town Hall
- Binningup Hall
- Brunswick Recreation Centre
- Brunswick Town Hall
- Gibbs Pool Amphitheatre
- Harvey RSL
- Harvey Town Hall
- Myalup Community Centre

4.9 Rural Area

4.9.1 Agriculture activities in the South West

Agriculture has historically been an important industry in the South West region and has a total agricultural production gross value of $637.5 million in 2012/2013. According to the South West Development Commission (SWDC) and ABS figures, the Shire is one of the largest in the region in terms of overall agricultural production. A summary of the Shire's agricultural sector is noted below:

- the total agricultural land holdings amounts to 61,986 ha;
- there are a total of 335 farms; and
- agricultural production for the Shire region is valued at $126 million.

Notwithstanding this however, recent ABS data indicates (as per the tables below) that there is a decline in major agriculture activities and the number of agricultural businesses across the South West overall. The exceptions to this trend were:

- All forms of Broadacre Crops, which saw an increase in the number of businesses despite a decrease in the land used for its production;
- Flowers or turf, which saw an increase in both the number of businesses and land used;
- Sheep and lamb, which saw an increase in both the number of businesses and land used; and
- Meat cattle, which saw a decrease in the number of businesses however an increase in the estimate number.

Table 32: Agricultural activities by no of businesses and estimated land used (ha) in Bunbury Region

Bunbury region (SA4)	2013-2014		2014-2015	
	Estimate (Ha)	No. of businesses	Estimate (Ha)	No. of businesses
Total Area	573,380	2,433	509,377	2,285
Broadacre Crops (including broadacre, hay, silage and horticulture)	87,507	1,682	81,540	1,411
Broadacre Crops – total area	20,728	105	20,560	120
Flowers or Turf	254	47	319	69
Vegetables for consumption	3,738	161	3,293	162
Grapevines	6,897	315	6,514	271

Source: ABS data 2011

Table 33: Agricultural activities by no of businesses and estimated number in Bunbury Region

Bunbury region (SA4)	2013-2014		2014-2015	
	Estimate (No.)	No. of businesses	Estimate (No.)	No. of businesses
Fruit and Nuts (No. trees)	2,145,450	356	1,972,088	266
Cattle Total	334,508	1,389	334,765	1,358
Dairy Cattle	103,814	256	86,845	155
Meat Cattle	230,693	1,317	247,920	1,287
Sheep and lambs	779,669	525	841,622	527
Pigs	np	66	np	32
Livestock (Other)	11,294	277	6,098	115

Source ABS data 2011

There are a number of reasons that could explain both the decline in major agriculture activities and the number of agricultural businesses, which could include:

- Annual fluctuations in agricultural production as a result of seasonal conditions, and local or overseas demand for certain agricultural productions;
- Younger generations are not wanting to inherit the family farm resulting in the amalgamation of these farms, creating super farms;
- The development and subdivision of rural land, reducing both the amount of land available for agricultural businesses and the number of businesses; and/or
- Change in agricultural land uses, for example from dairy to meat cattle production.

4.10 Urban design, character and heritage

4.10.1 Heritage Protection

Under the guidance of the Heritage Advisory Committee the Shire has reviewed the Shire's Local Municipal Heritage Inventory (MHI), which was adopted by Council at its Ordinary Meeting in October 2015. The Shire's MHI lists approximately 235 places considered to be of heritage significance and identifies a recommended Management Category for each place, thus providing the basis for establishing a revised Heritage List. Currently the Shire's Heritage List of Places is listed under Schedule 1 of the DPS1.

At that Meeting, Council also adopted two supporting heritage local planning policies: Local Planning Policy for Heritage Places and Local Planning Policy for the Yarloop Heritage Area. The Local Planning Policy for Heritage Places provides guidance and support with regards to the assessment of development applications for places to be registered in the Shire's future Heritage List.

The Local Planning Policy for the Yarloop Heritage Area (YHA) is a separate heritage planning policy which established a Heritage Precinct for Yarloop. The policy guided appropriate development in this locality that were not identified in the MHI or future list. Additional design provisions, such as use of colours and materials, window frame, roof pitch and fencing, were listed in the policy with the intent to protect the heritage character of the area.

In January 2016, a severe bushfire destroyed 75% of properties within the Yarloop Heritage Area and seven properties outside the area that where identified within the Shire's MHI. Two State registered heritage sites were also destroyed – the Yarloop Timber Workshops and St Joseph's Catholic Church.

In response to the fires, the YHA Policy was revoked and the Local Heritage Policy was modified removing the requirement for a planning approval for the demolition of any badly damaged structures within the YHA and the properties affected by the fire. In addition, further consultation and discussion will need to be had with the Shire and the residents of Yarloop in order to consider the future housing design and character of the area.

Greater emphasis will now be placed on ensuring proactive measures are undertaken by the Shire to interpret and recognise heritage places and encourage their conservation in the longer term.

4.11 Traffic and Transport

4.11.1 Major Transport Routes

Major roads servicing the Shire include the Forrest Highway, South Western Highway and Coalfields Highway. The Forrest Highway links the South-west region to Perth and whilst it passes through the Shire it bypasses all major towns and settlements. The South Western Highway passes through a number of towns including Harvey, Brunswick, Roelands, Wokalup and Yarloop, however has experienced a significant decrease in traffic since the opening of the Forrest Highway in 2009. Main Roads WA has completed upgrades to the intersection of Raymond Road and South West Highway intersection. The Coalfields Highway is the main road connecting the coastal towns of Bunbury, Australind and Eaton with Collie, a major mining hub which employs many residents from the coastal areas.

It is anticipated that road usage will continue to increase and Main Roads WA being the responsible authority will continue to maintain the primary roads to a suitable standard. Whilst the South Western Highway runs through a number of inland towns, there are no plans to create bypasses at this stage.

There is a need for assessment and consideration of Marriott Road to be reclassified as a Main Roads controlled road in the context of further planned industrial expansion at Kemerton.

The Shire and Main Roads WA hold concerns regarding the increase of horticulture related farm machinery on Forrest Highway and the potential for road safety and as such are currently developing an alternative road network to provide a safer option for farm machinery.

The GBS identifies a further bridge over the Collie River, east of the Forrest Highway, to link future development proposed for each side of the river. The bridge is being planned as part of the Bunbury Outer Ring Road project.

4.11.2 Bunbury Outer Ring Road (BORR)

The Main Roads WA, Bunbury Outer Ring Road (BORR) planning project interfaces with the Shire's future development area between Clifton Road, Raymond Road and Forrest Highway.

A grade separated interchange is planned at the BORR northern tie-in, including an east-west connection from Clifton Road to Paris Road. However, it is noted that in order to limit impacts on land and environmental at this location, only limited traffic movements are being considered (primarily movements to and from the north and cross-connection from Clifton Road to Paris Road).

It is noted that the BORR will also sever Treendale Road. A new intersection is proposed to allow for north-facing ramps thereby avoiding heavy vehicle congestion at the intersection of Forrest Highway and Raymond Road. The existing intersection with Raymond Road west of the BORR will also need to be reconfigured to accommodate the existing lots and secondary access to the Meadow Landing estate.

To ensure all landowners are aware of the likely impacts these intersections may have on affected properties, these intersections should be depicted on the Scheme Maps in LPS No. 2 through appropriate reservations once final designs have been completed.

4.11.3 Rail

Rail services run adjacent to the South Western Highway and are mainly used for freight purposes, however a daily passenger service (The Australind) connects Bunbury and the inland towns with Perth. An east-west spur linking Brunswick to the Worsley Industrial Area near Collie also exists.

The railway infrastructure has in recent years been upgraded and caters for significant movement of freight, most of which is transported to the Bunbury Port. The Kemerton Industrial Park Strategy indicates that an additional spur connecting the Kemerton locality to the port of Bunbury north of Brunswick is necessary to make efficient use of the strategically located industrial area and ensure its ongoing viability.

The GBS indicates a future fast passenger rail service adjacent to the Forrest Highway with a station in the Bunbury CBD and a connecting service to Busselton. In the GBS it is indicated that a regional 'park and ride' be established at Eaton, however it is considered that an additional station should be provided in populated strategic locations in the Greater Australind area such as Treendale, to facilitate a high level of local patronage of the service once established.

4.11.4 Public Transport

The GBS makes reference to the need for high quality public transport hubs, however, the current level of public transport in the Harvey area is of a low standard to encourage regular patronage. Presently there are no options for catching public transport to Bunbury from any of the inland towns along the South Western Highway. Whilst there are some buses that service the Australind area, they are both infrequent and have limited routes which would prevent many residents from using them. Without significant investment from the State government, it is considered that residents of the Shire will continue to be heavily reliant on private motor vehicle use.

4.11.5 Boating Facilities

There are presently several boat launching facilities around the Australind area, with the most significant being the boat ramp located at Ridley Place. The Shire has recently completed an extensive upgrade to the facilities at Ridley Place.

An audit of existing formal and informal boat launching facilities within the Shire is presently being undertaken with a view to rationalisation. This will be achieved by upgrading required boat ramps and closing those which are contributing to unnecessary environmental impacts along the foreshores and banks of the Shire's water ways.

4.11.6 Pedestrian and Cycle Paths

In order to reduce reliance on motor vehicles and to encourage a connected, healthy and active community it is important that the Shire continues to invest in establishing a high quality and safe pedestrian and cycle network in all localities throughout the Shire, but particularly where vehicle traffic congestion is an issue. The network should endeavor to provide safe and efficient connections linking both recreational and commercial nodes.

The Shire also has a variety of destinations including foreshores and naturally vegetated areas adjacent to townsites that would be more widely utilised if the pedestrian and cycle networks were upgraded. The organisation *Healthy Spaces and Places* produces a guide containing

design principles to support communities to be healthy through quality urban design and should be used as a reference by the Shire**.**

4.12 Infrastructure services

4.12.1 Water

4.12.1.1 Town Water Supplies

Harvey has a reticulated water supply provided by the Water Corporation and drawn from the nearby Harvey Weir and estimated to be at around 679 Megalitres per annum including the supply to nearby Wokalup (Office of Water Regulation, June 2001). Harvey/Wokalup has two service reservoirs and two pump stations.

Australind has a reticulated water supply entirely from groundwater supplies. A total of 6 bores provide around 2,993 Megalitres per annum to the townsite (OWR, June 2001). Australind also has 4 service reservoirs and seven pump stations.

Clifton Park is supplied from the bore sites that service Australind, while the Leschenault area is also supplied from a local bore water scheme operated by the Water Corporation. Brunswick Junction has a reticulated water supply from bore water sites and Yarloop is supplied with reticulated water from Bancell Brook Dam.

4.12.1.2 Southern Seawater Desalination Plant

The Southern Seawater Desalination Project (SSDP), (also referred to as the Binningup Desalination Plant) is a desalination plant located along Taranto Road, Binningup. The plant is capable of producing 100GL of drinking water annually, suppling 20% of Perth's water requirements and to the south west region. The facility consists of offshore marine infrastructure (intake and diffuser systems) and onshore infrastructure (treatment and storage infrastructure) (Water Corporation 2015).

The site is about 1,200 metres from the coast with most of the plant situated in a now disused limestone quarry. The project includes the laying of a 30-kilometre, 1,300-millimetre pipeline to deliver potable water to the South West Integrated System via a storage facility near Harvey (Water Corporation 2015). The Harvey facility has one 32 megalitre storage tank operational with another one under construction. There is allowance at the site for four 32 megalitre storage tanks.

4.12.2 Reticulated Sewerage

Reticulated water and sewerage are available within the urban settlements of the Shire. The rural residential areas and those areas not connected to reticulated sewerage are serviced by private effluent disposal systems. The regulatory enforcement of these systems within the Shire is managed by the Shire's Environmental Health Services department.

The Kemerton Waste Water Treatment Plant (KWWTP) is located at Lot 310 Wellesley Road in Kemeteron. The KWWTP is currently processing 3.5 million litres of wastewater from Eaton and Australind for treatment every day. The Water Corporation has completed project works to the KWWTP to support growth forecasts for the Shires of Harvey and Dardanup into 2030, which included:

- Installation of a denitrification filters installed at the plant; and

- construction of a pipeline that will enable Eaton's wastewater flows to be redirected to the Bunbury Wastewater Treatment Plant

4.12.3 Electricity

The Kemerton Gas Power Plant is located on 505 Treasure Road, Wellesley. It operates as a peaking plant and provides input into the South West Interconnected System (SWIS) in Western Australia. The power station comprises of two open cycle gas turbines and commenced operation in November 2005. In June 2008, a 40 MW upgrade to Kemerton Power Station was completed, increasing its capacity to 344 MW. The upgrade has made the power station more efficient and improved its environmental rating by reducing greenhouse gas emissions, while providing power for an additional 10,000 households. It is estimated that power station will have a remaining life of 25yrs, with a 2040 asset end. There is also Western Power's Kemerton Terminal and Substation, and Tesla's Peak Power Station located within the Kemerton Strategic Industrial Area.

4.12.4 Telecommunications

Over the past two years, the National Broadband Network (NBN) has been rolled out over the Shire as part of a Federal Government initiative. In order to provide sufficient coverage over the Shire's rural areas and urban centres, the NBN will consist of a mix of fixed line and fixed wireless technology. Fixed wireless technology is where data travels from a transmission tower using existing mobile phone towers, as opposed to fixed line technology where data travels from cables. Australind, Leschenault, Harvey, Myalup, Binningup and parts of Treendale and Kingston are connected to the fixed NBN network. The NBN for Brunswick is expected to be completed in July – December 2020.

5. Constraints

5.1 Environmental Constraints

5.1.1 Flood Prone Areas

The GBRS *Floodplain Management Policy* contains floodplain mapping relevant to the Australind area, and is generally applicable to land within 200m of other watercourses for which a floodplain has not been defined.

The Strategy Maps illustrate the flooding potential of the Collie, Brunswick and Wellesley Rivers and the Leschenault Estuary, including the Cathedral Avenue locality. This Strategy recommends all affected land be defined in LPS No. 2 as being within a 'Special Control Area' with specific provisions controlling development in these areas, which may include but is not limited to setbacks and finished floor levels.

The Shire recognises the issue of climate change and the potential for sea level increases as identified under SPP 2.6 *State Coastal Planning*. In this regard, the Shire is committed to working with the Peron Naturaliste Partnership with a goal of establishing an appropriate planning framework to adequately deal with these matters into the future.

The Shire completed its "Coastal Hazard Risk Mapping and Adaptation Plan" (CHRMAP) for the entire coastline in 2016 and the CHRMAP was adopted in February 2017. Appropriate Scheme provisions will be included within LPS No. 2 to provide guidance on the best way to manage (defend or retreat) coastal infrastructure and areas of future development.

In June 2017, the Shire adopted a Geophysical Assessment associated with the Binningup coastline.

5.1.2 Bush Fire Risk Areas

In accordance with State Planning Policy 3.7 "Planning for Bushfire Protection" a Bushfire Hazard Assessment Report (BHAR 2015) has been prepared for the Shire which focuses on the Precinct Areas identified within this Strategy (excluding Australind, Treendale and Kingston). All future Structure Plans will be required to include fire mitigation measures addressing the known risks identified within the BHAR 2015.

Additionally, Scheme Provisions will need to be included within the new Scheme to make reference to the Planning and Development Regulations in regard to fire risk.

Of note the BHAR 2015 identified that single access into the Myalup townsite via Myalup Beach Road only is a significant bushfire management issue that urgently needs to be addressed. State Planning Policy 3.7 Planning in Bushfire Prone Areas and the associated guidelines recommend a minimum of two vehicle access ways going in different directions are to be constructed in order to ensure alternative evacuation routes are available in the event of a significant bushfire.

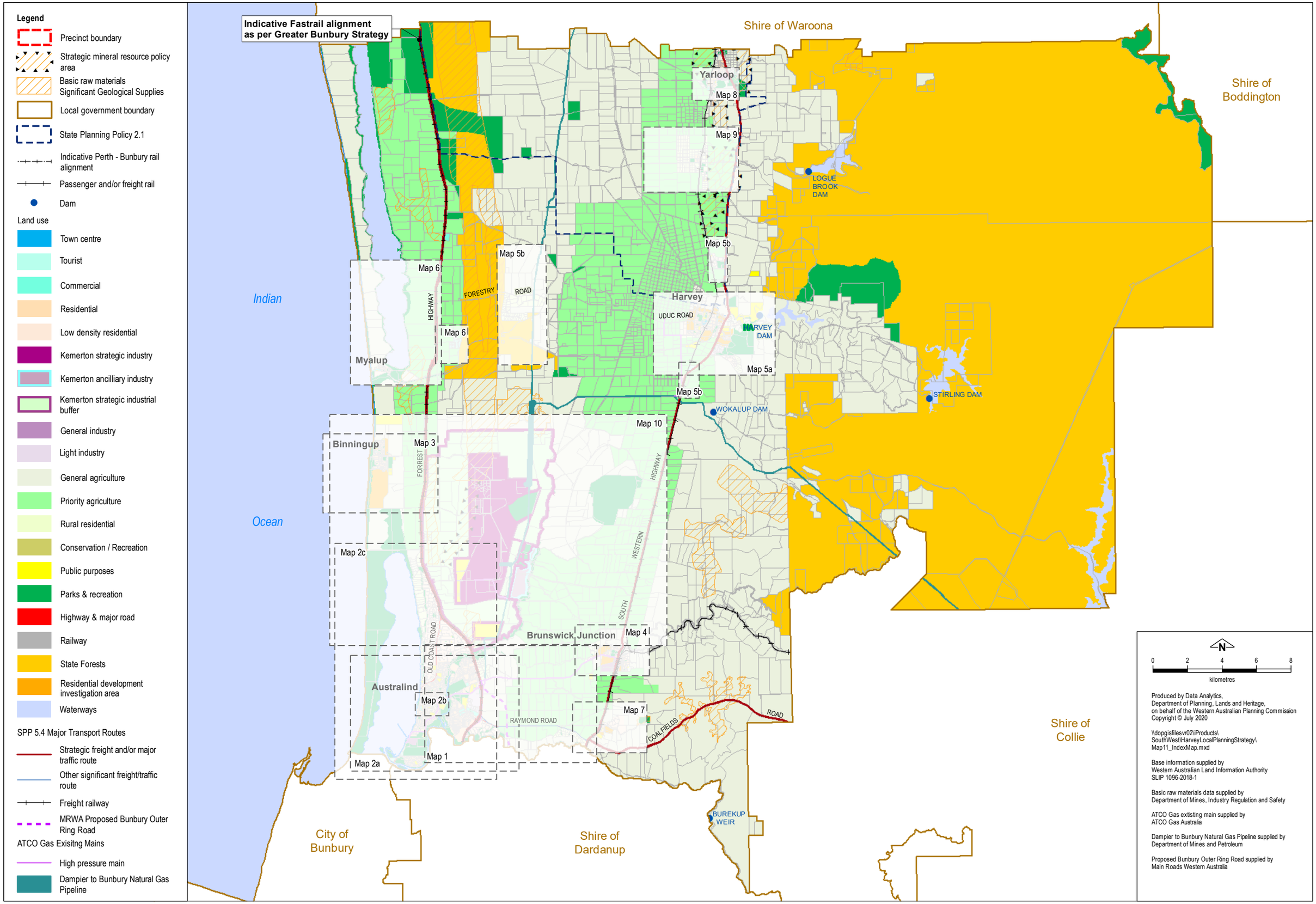
5.2 Other Constraints

5.2.1 Funding of Public Infrastructure

The population of the Shire is growing at a steady rate. The increase in population places pressure on the Shire to provide additional facilities, services and infrastructure for the community. SPP 3.6 Development Contributions for Infrastructure recognises the challenge that local authorities face and provides mechanisms for local authorities to collect "developer contributions" to assist. SPP 3.6 sets out the principles underlying development contributions for community infrastructure and the form, content and process for the preparation of development contribution plans.

This process involves the identification of required services, facilities and/or infrastructure and the associated costs with their provision, for particular localities and establishing corresponding "developer contribution areas". New development within the designated area requires the payment by the developer of a contribution per newly created lot which is placed in a trust account for future use to provide the identified service to that locality.

Provisions for developer contributions will be included in LPS No. 2 consistent with the provisions of the Model Scheme Text and SPP 3.6 to enable the Shire to collect funds to provide the services required by the community. However, prior to this occurring the Shire will need to undertake the necessary background work to establish where developer contribution areas will apply and identify the necessary services, facilities and/or infrastructure required to service those communities and associated costs through the development of a Developer Contribution Plan.



Overall Strategy Plan - Shire of Harvey

Index Map

RD2: Residential area (Section 3.1.2.2 & Table 3)

RD3: Residential area (Section 3.1.2.2 & Table 4)

RD4: Retirement village (Section 3.1.2.2 & Table 5)

RD5: Residential area (Section 3.1.2.2 & Table 6)

RD19: Residential development area (Section 3.1.2.12 & Table 20)

RD1: Residential area (Section 3.1.2.2 & Table 2)

LIA1: Light industrial area (Section 3.6.1.1, Table 28 & Section 4.5.4.1)

LUIA: Long term urban investigation area (Section 3.1.1 & Table 1)

Buffers may be required as per SPP 4.1

Indicative fastrail alignment - yet to be determined. North of Australind to follow Greater Bunbury Strategy alignment. This alignment is subject to the conclusion of MRWA's Bunbury Outer Ring Road planning processes.

Meadow Landing estate Section 3.2.1.8

Shire of Dardanup

FOREST HIGHWAY
HOWSON DRIVE
CLIFTON ROAD
VICTORIA ROAD
ALVERSTOKE ROAD
INKERMAN ROAD
ALMA ROAD
RAYMOND ROAD
TREENDALE ROAD
Brunswick River
Collie River

N

0 0.25 0.5 0.75 1
Kilometres

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Main Roads Western Australia

DRAFT FOR PUBLIC COMMENT

Legend

- Precinct boundary
- Local government boundary
- Indicative Perth - Bunbury rail alignment

Land use

- Commercial
- Residential
- Low density residential
- Kemerton strategic industrial buffer
- General industry
- Light industry
- General agriculture
- Priority agriculture
- Rural residential
- Public purposes
- Parks & recreation
- Highway & major road
- Railway
- Waterways

SPP 5.4 Major Transport Routes

- Strategic freight and/or major traffic route
- Other significant freight/traffic route
- Freight railway
- MRWA Proposed Bunbury Outer Ring Road

ATCO Gas Exisitng Mains

- High pressure main
- Dampier to Bunbury Natural Gas Pipeline

Strategy Plan - Roelands

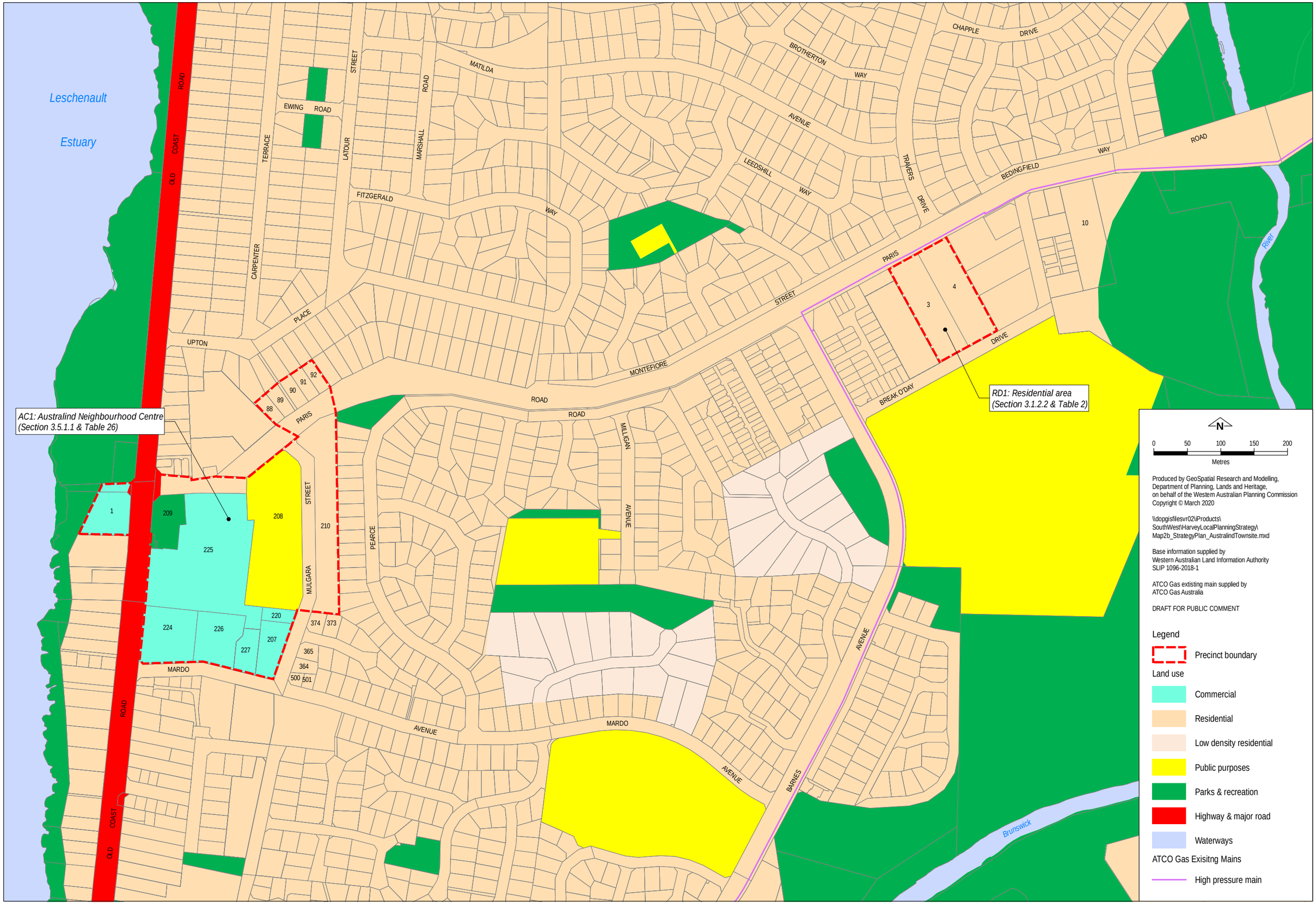
Map 1

Shire of Harvey Local Planning Strategy



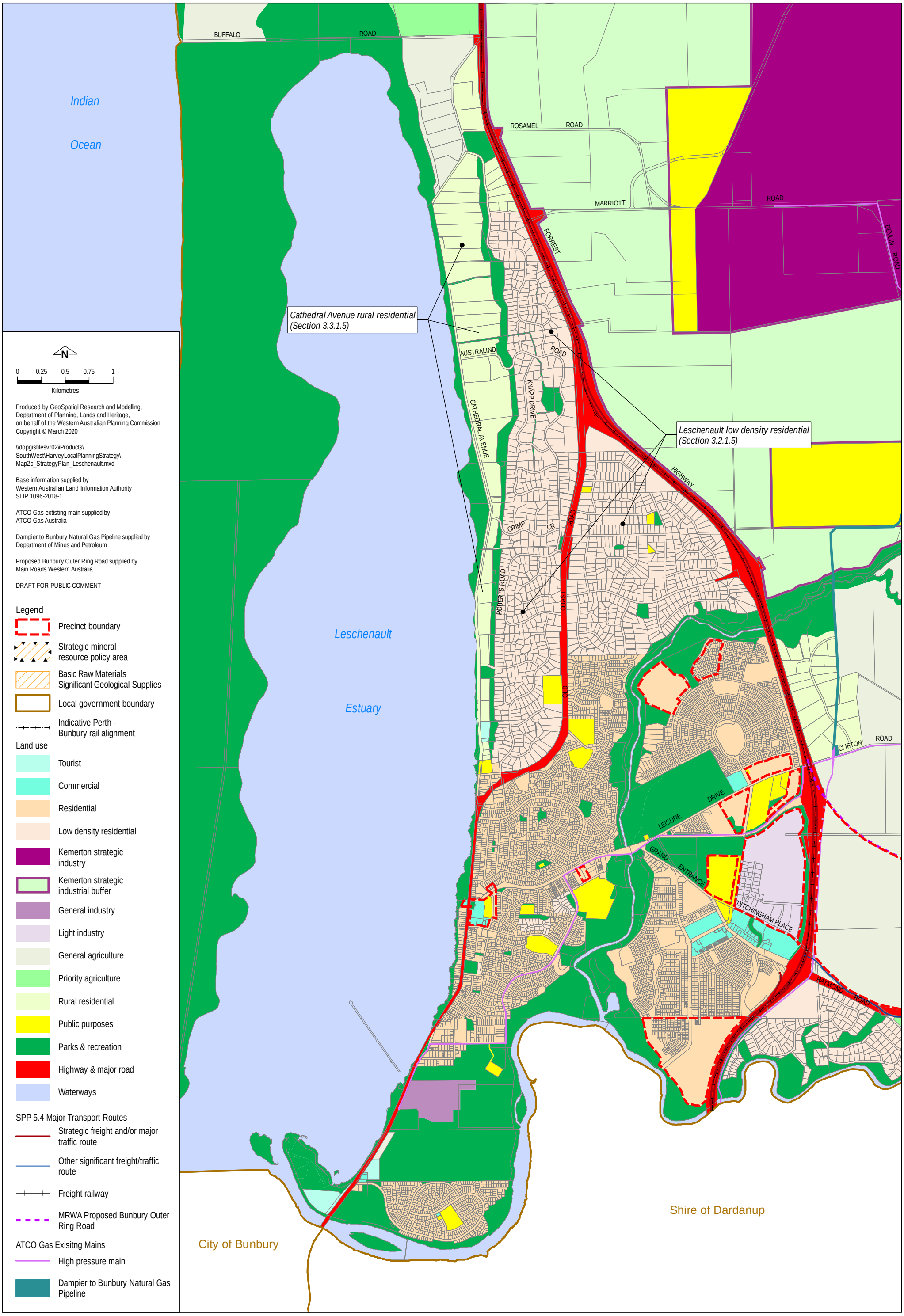
Australind South

Map 2a



Australind townsite

Map 2b



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Main Roads Western Australia

DRAFT FOR PUBLIC COMMENT

Legend

- Precinct boundary
- Strategic mineral resource policy area
- Basic Raw Materials Significant Geological Supplies
- Local government boundary
- Indicative Perth - Bunbury rail alignment

Land use

- Tourist
- Commercial
- Residential
- Low density residential
- Kemerton strategic industry
- Kemerton strategic industrial buffer
- General industry
- Light industry
- General agriculture
- Priority agriculture
- Rural residential
- Public purposes
- Parks & recreation
- Highway & major road
- Waterways

SPP 5.4 Major Transport Routes

- Strategic freight and/or major traffic route
- Other significant freight/traffic route
- Freight railway
- MRWA Proposed Bunbury Outer Ring Road

ATCO Gas Exisitng Mains

- High pressure main
- Dampier to Bunbury Natural Gas Pipeline

Leschenault and Australind

Map 2c

Binningup townsite: R-Codes to be reviewed as part of the Scheme Review process

Tourist Caravan Park

Existing commercial centre

RD8: Residential development area (Section 3.1.2.3 & Table 9)

RD9: Residential development area (Section 3.1.2.3 & Table 10)

Secondary access option A Approved as part of the approved structure plan

Secondary access option B as part of the approved structure plan

Secondary access into Binningup to be created via Springhill Road

Indian Ocean

76

70

9005

WEST COAST DRIVE

PORTLAND DR

BINNINGUP ROAD

PIONEER ST

CORONATION DR

TUKA

IROAD

PARADE

LAKES

VALENTINE ROAD

BINNINGUP ROAD

WELLESLEY ROAD NORTH

HIGHWAY

FORREST

SPRINGHILL ROAD

TREASURE ROAD

N

0 200 400 600 800

Metres

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Map3_StrategyPlan_Binningup.mxd

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Legend

- Precinct boundary
- Basic raw materials Significant Geological Supplies
- Indicative Perth - Bunbury rail alignment

Land use

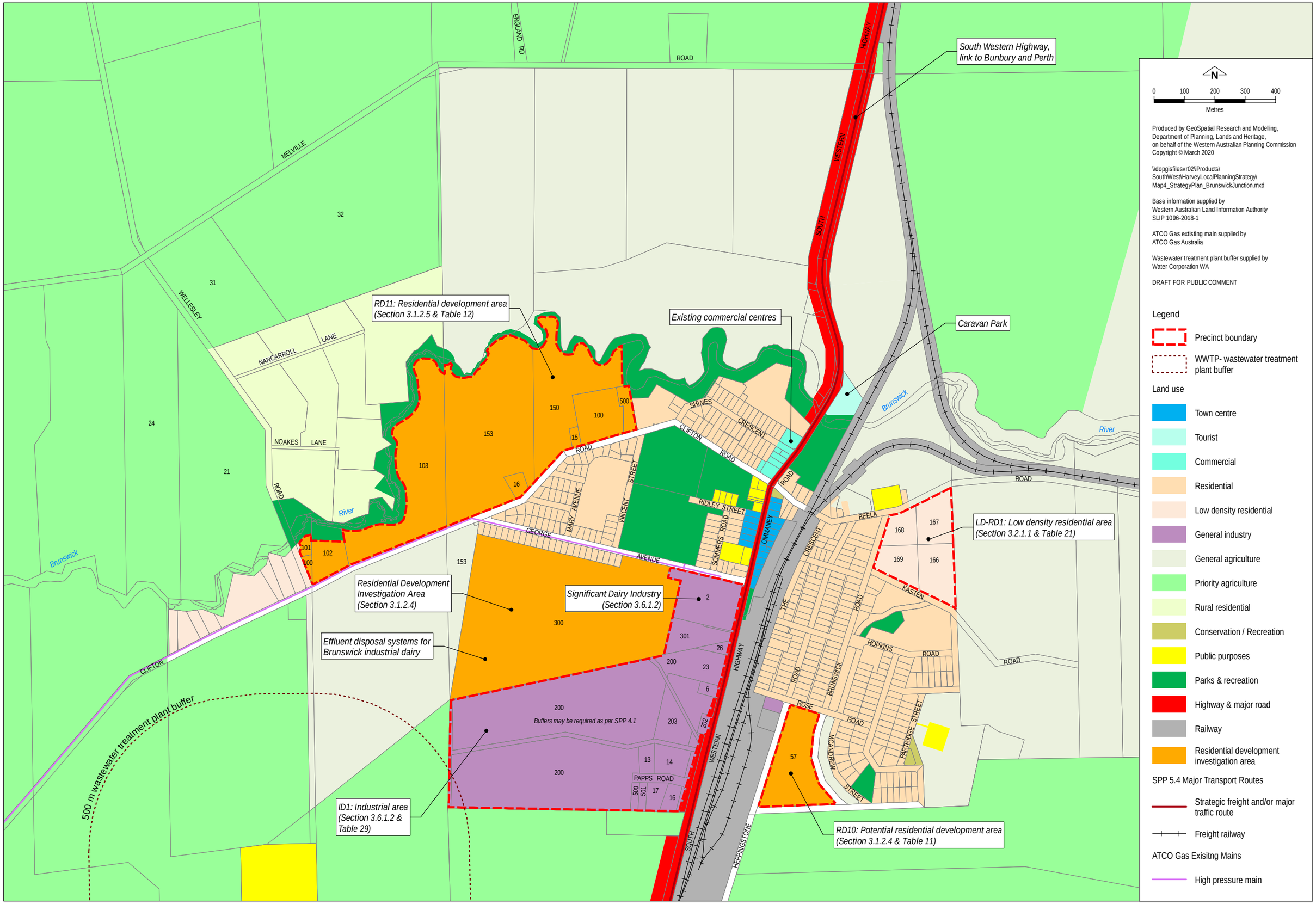
- Tourist
- Commercial
- Residential
- General agriculture
- Priority agriculture
- Public purposes
- Parks & recreation
- Highway & major road
- Residential development investigation area

SPP 5.4 Major Transport Routes

- Strategic freight and/or major traffic route

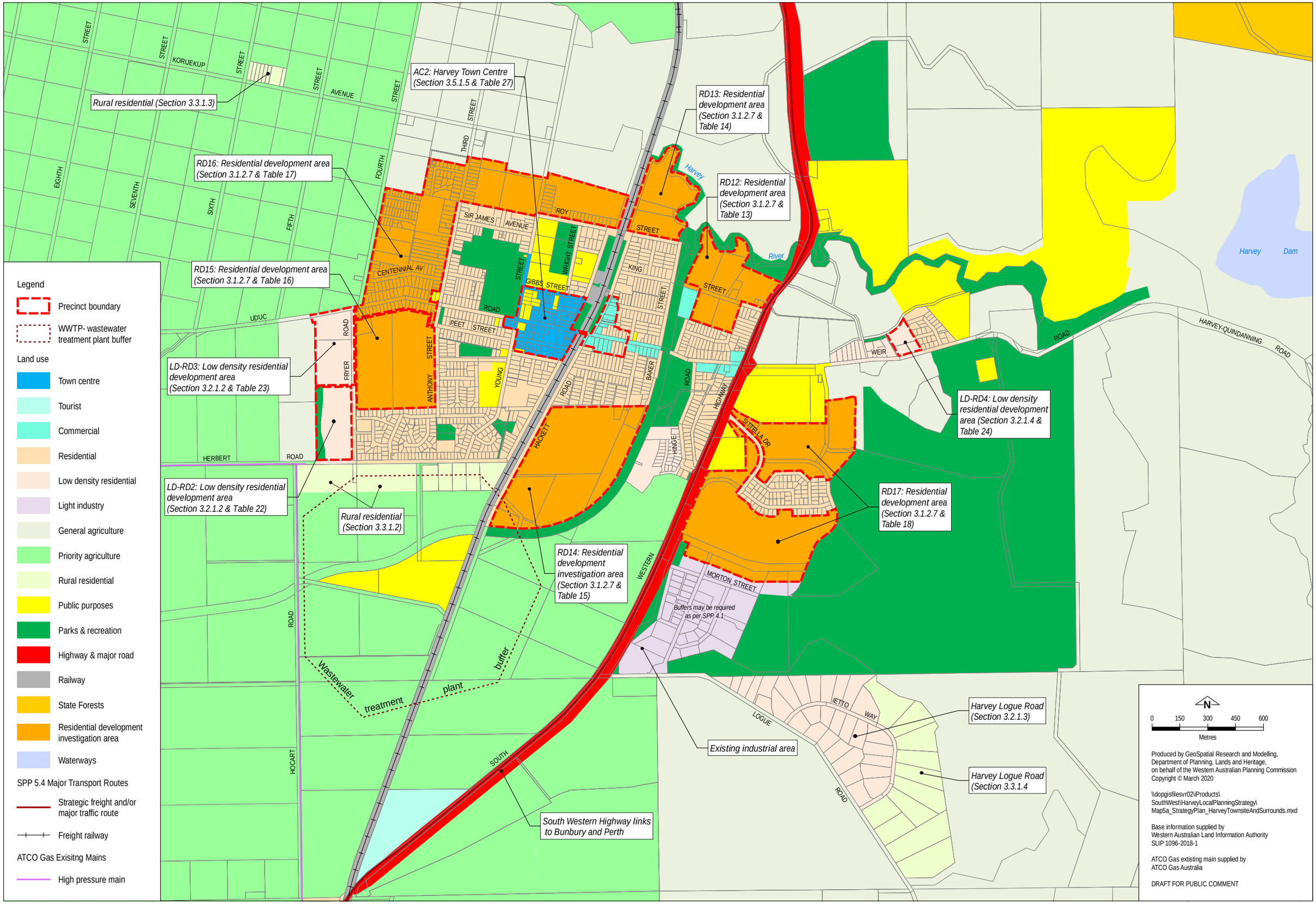
Binningup

Map 3



Brunswick Junction

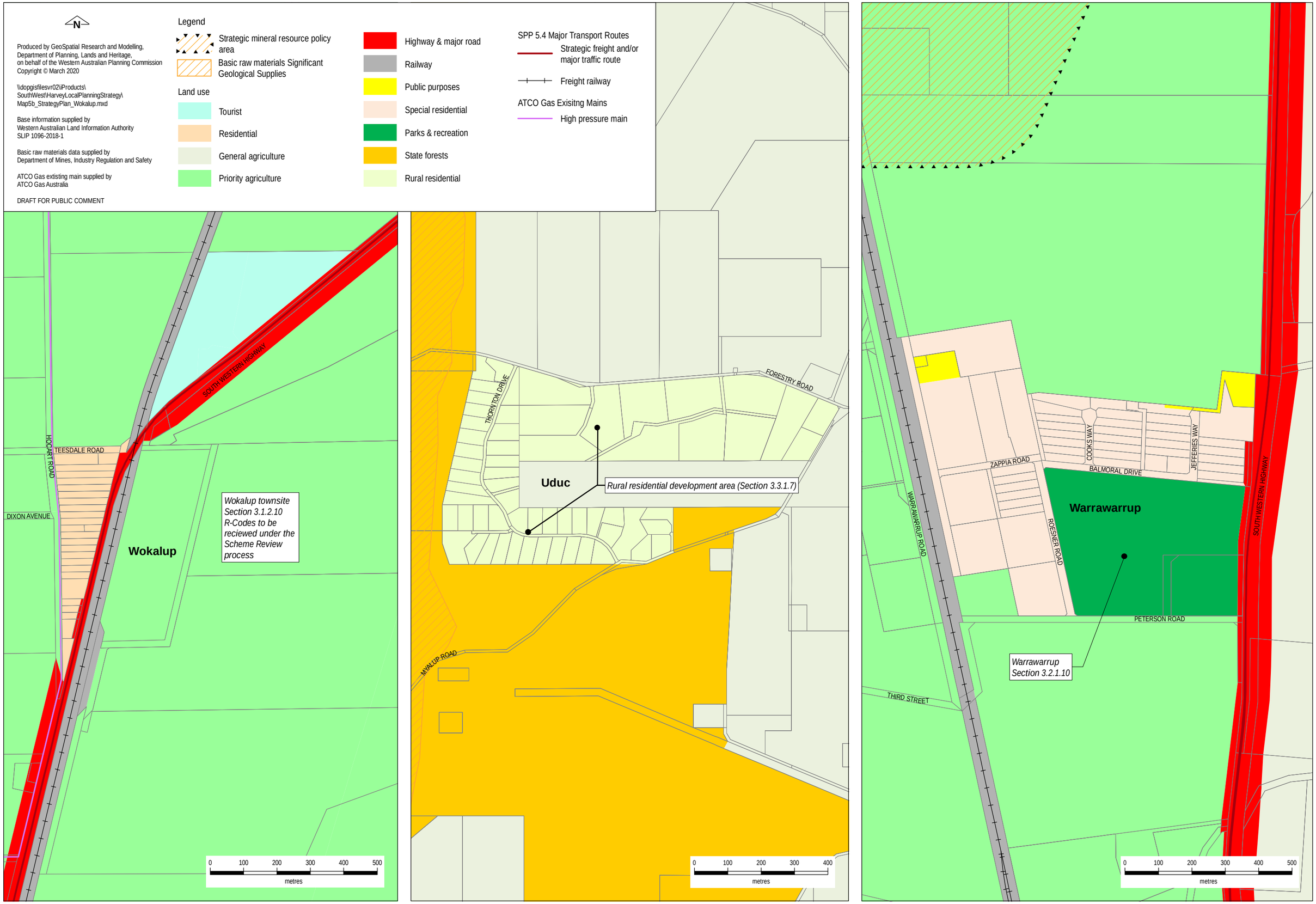
Map 4



Strategy Plan - Harvey Townsite and Surrounds

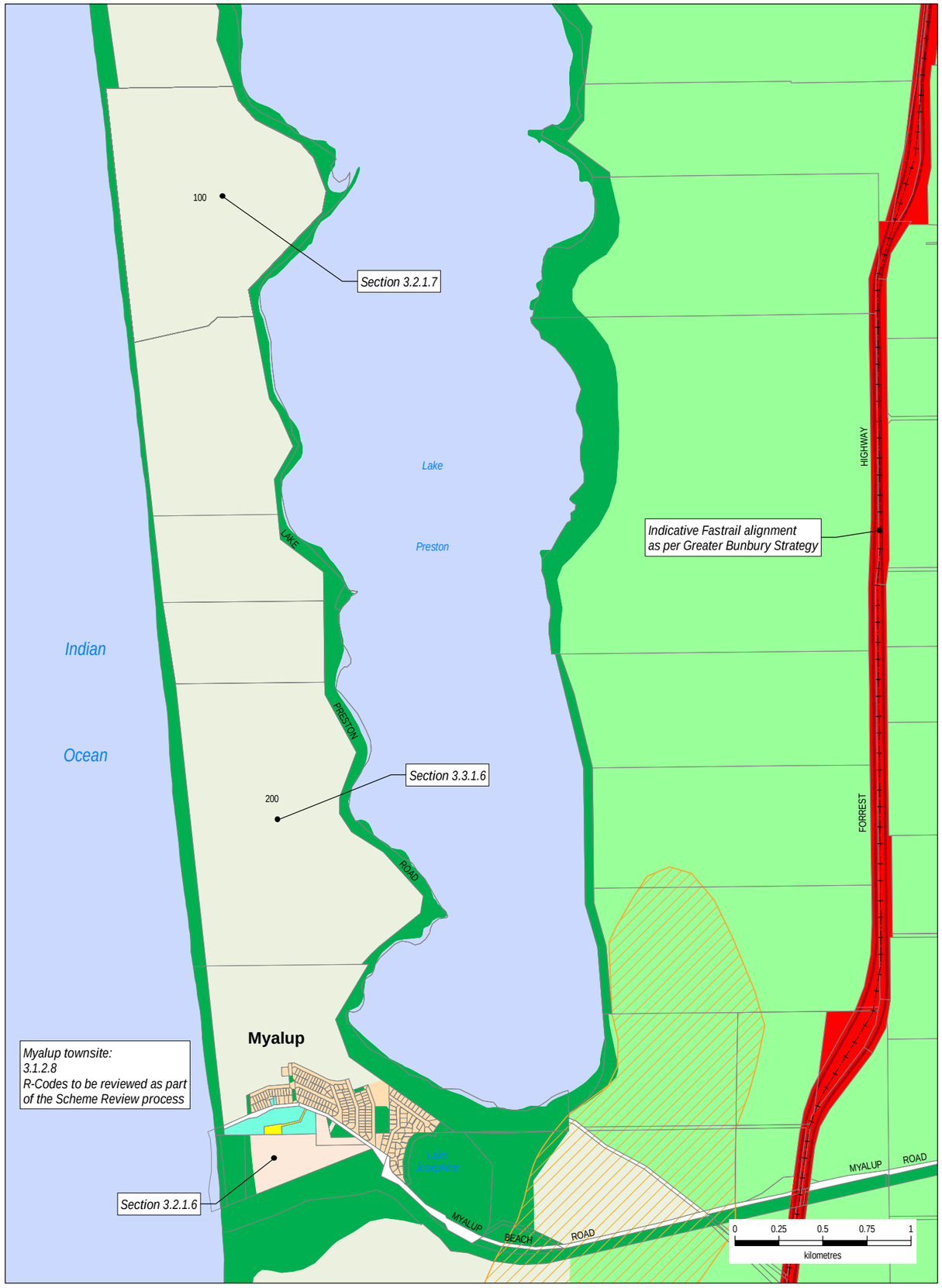
Map 5a

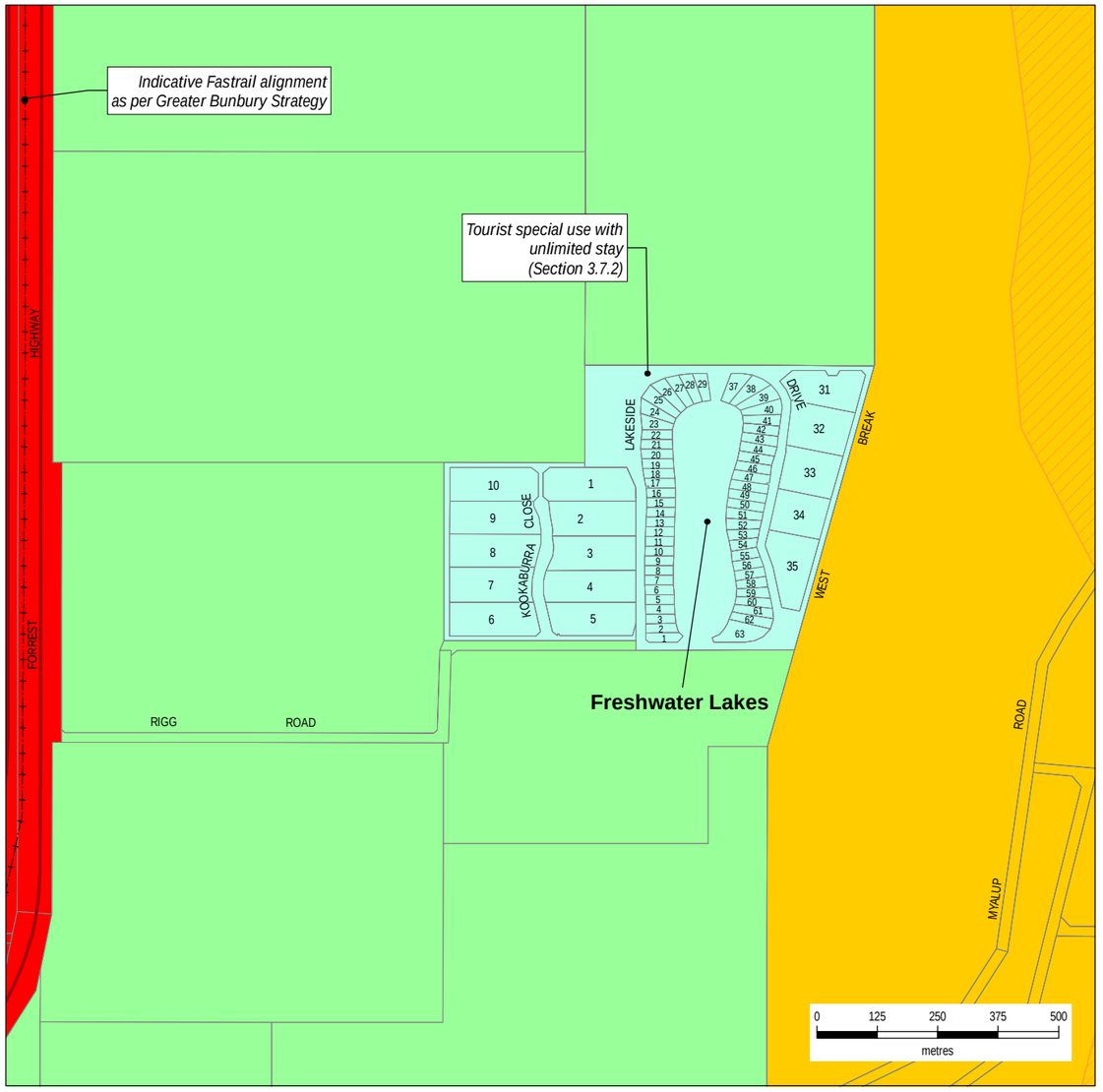
Shire of Harvey Local Planning Strategy



Strategy Plan - Wokalup, Uduc and Warrawarrup

Map 5b





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Map6_StrategyPlan_MyalupFreshwaterLakes.mxd

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DRAFT FOR PUBLIC COMMENT

Legend

- Basic raw materials
  Significant Geological Supplies
- Indicative Perth - Bunbury rail alignment

Land use

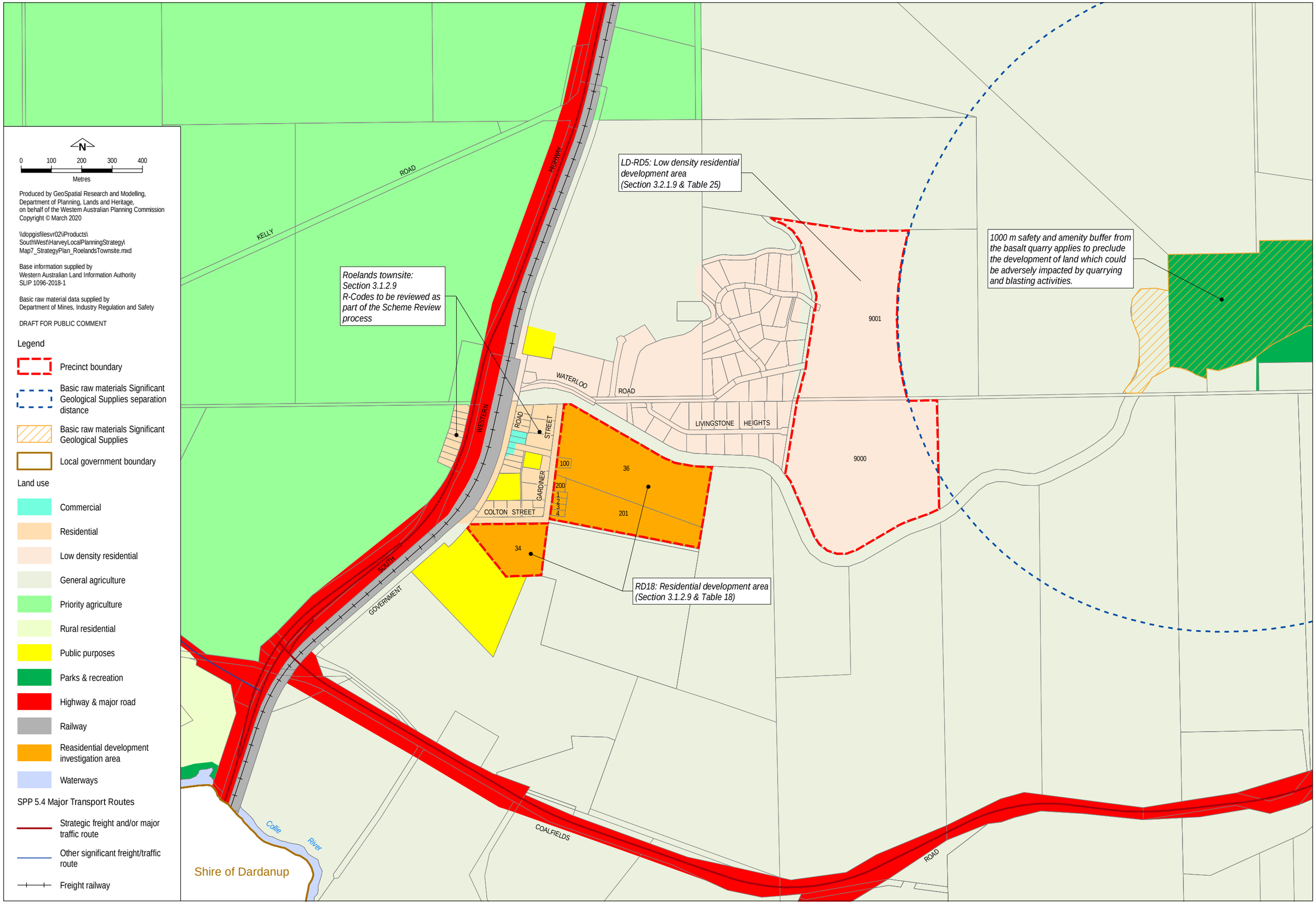
- Tourist
- Commercial
- Residential
- Low density residential
- General agriculture
- Priority agriculture
- Public purposes
- Parks & recreation
- Highway & major road
- State Forests
- Waterways

SPP 5.4 Major Transport Routes

- Strategic freight and/or major traffic route

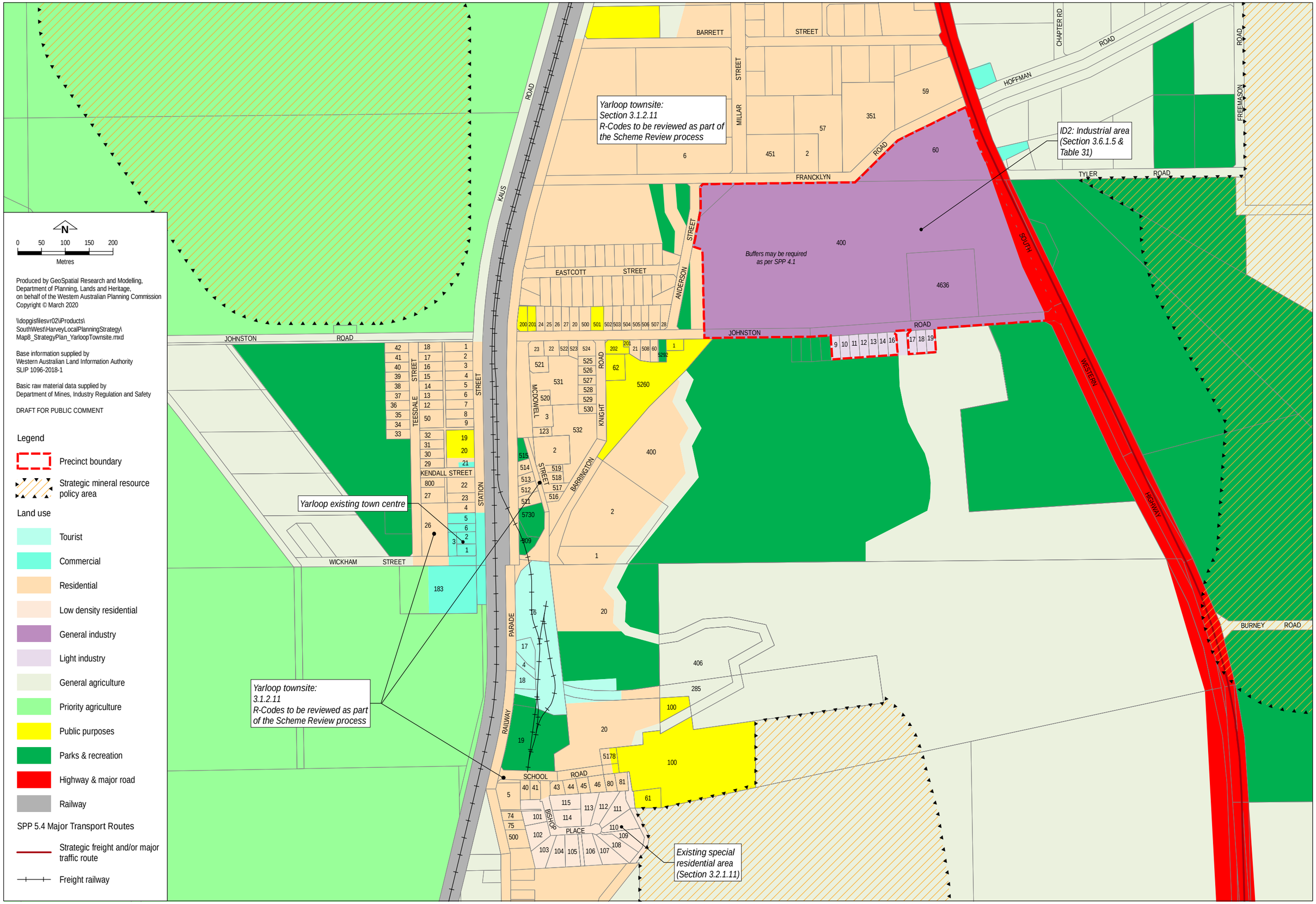
Myalup and Freshwater Lakes

Map 6



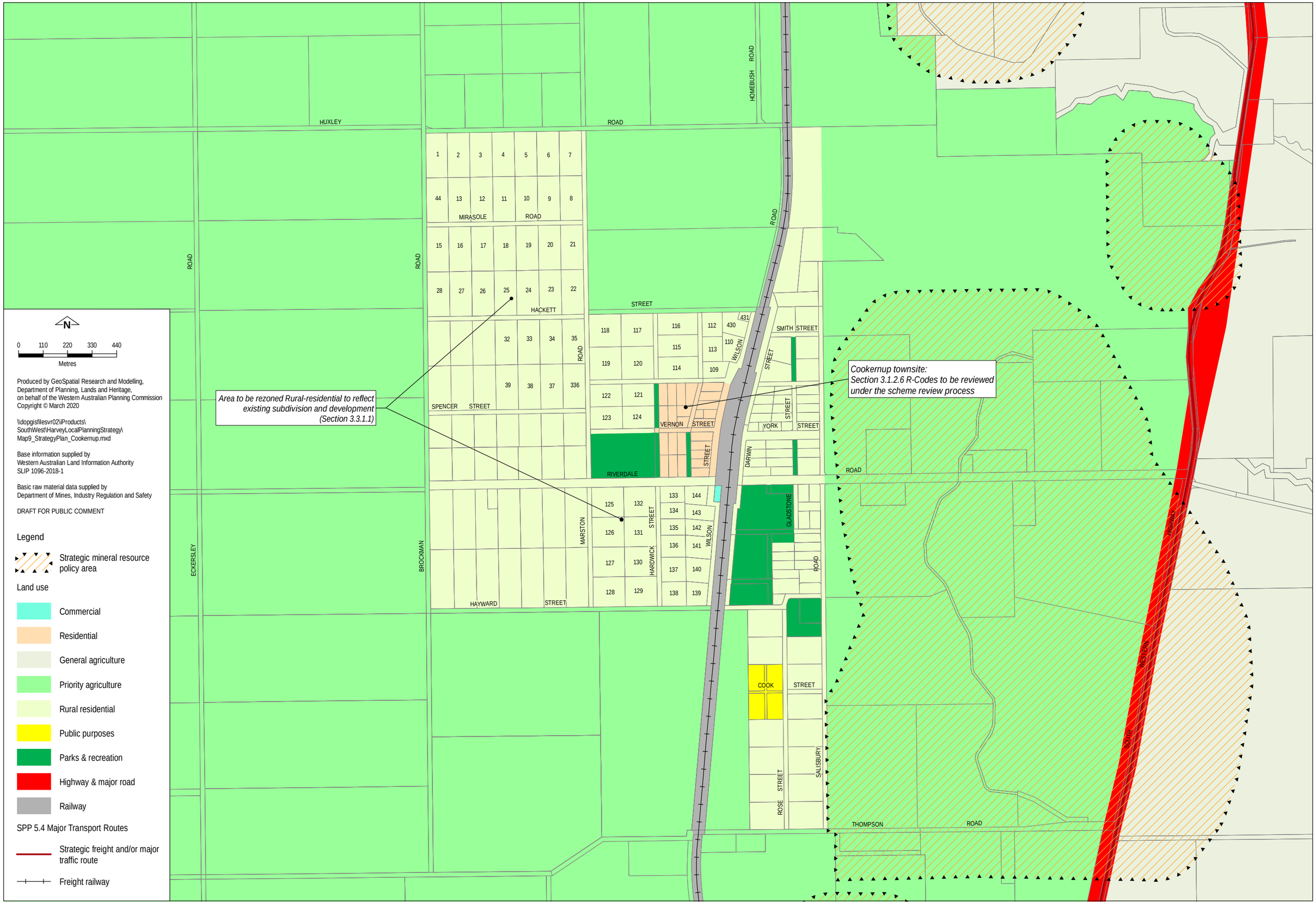
Strategy Plan - Roelands townsite

Map 7



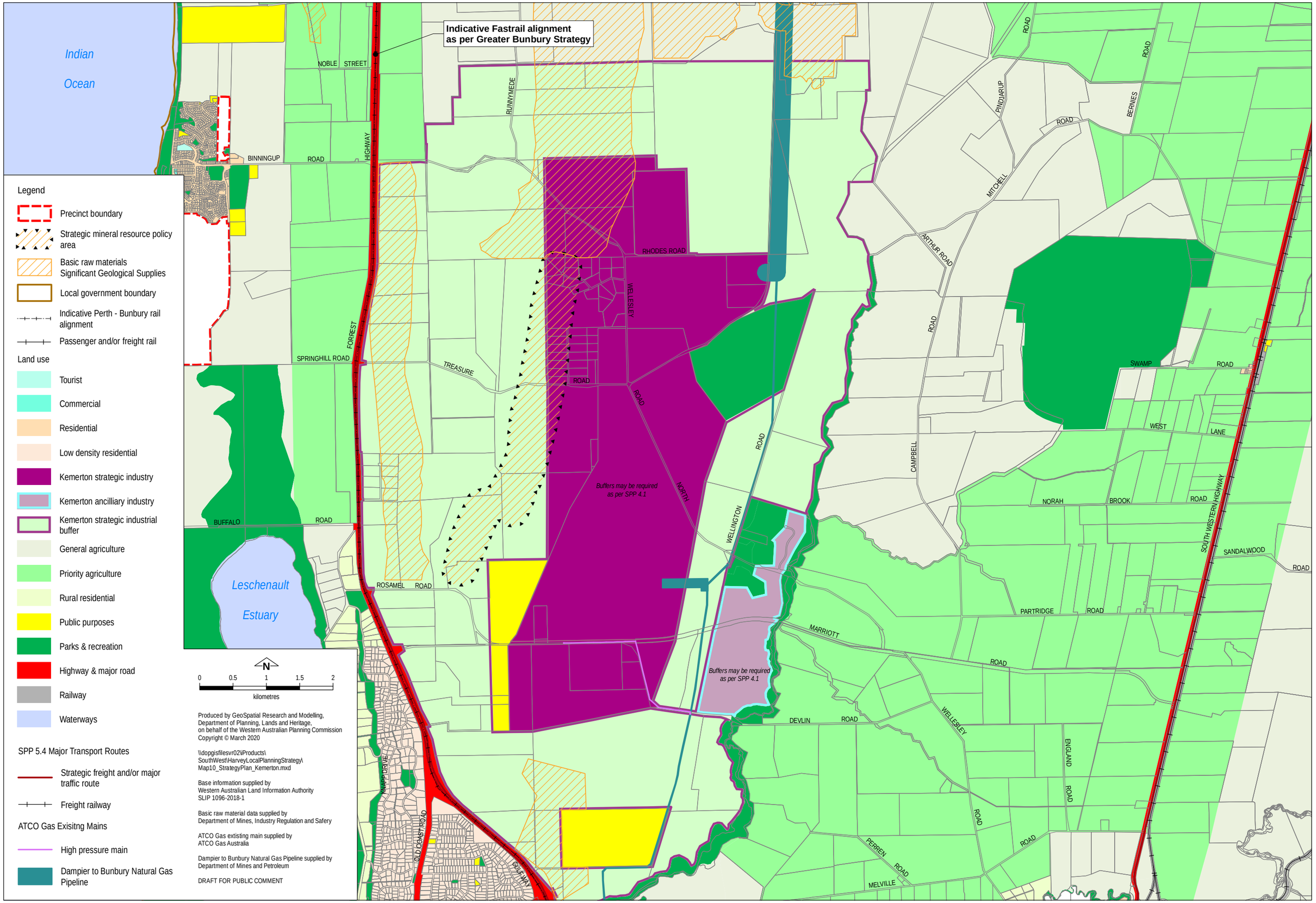
Strategy Plan - Yarloop

Map 8



Cookernup

Map 9



Strategy Plan - Kemerton

Map 10

Annexure SGA14

SPP1.0 State Planning Framework



GOVERNMENT OF WESTERN AUSTRALIA

Department of **Planning, Lands and Heritage**

Western Australian Planning Commission

State Planning Policy 1

State Planning Framework

November 2017

Prepared under Section 26 of the Planning and Development Act 2005 (as amended) by the Western Australian Planning Commission and issued with approval of the Minister for Planning and Her Excellency the Governor

(Supersedes the Statement of Planning Policy No. 1 (Variation No. 2) as published in the Government Gazette No. 25 of 3 February 2006)

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click to follow

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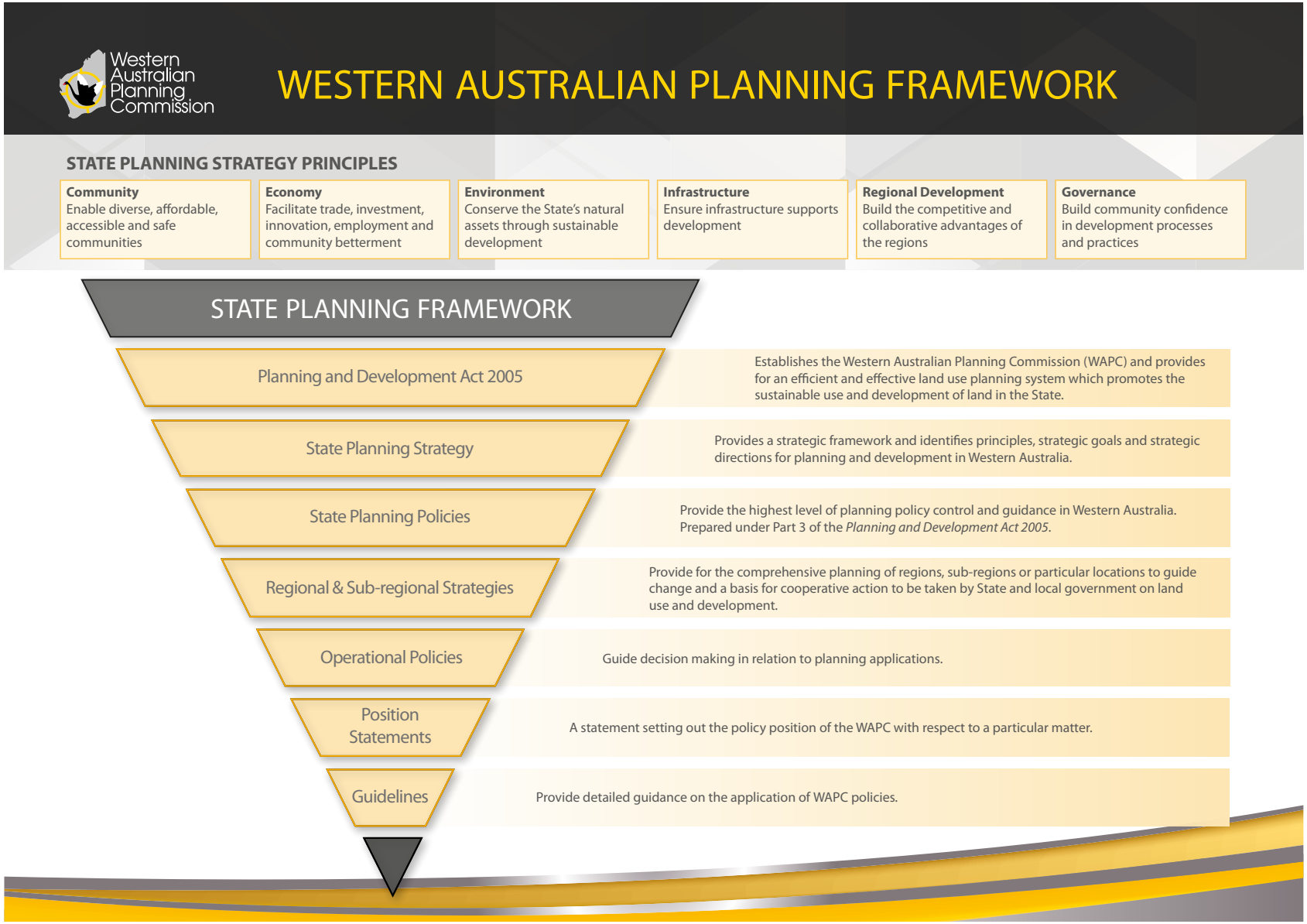


Figure 1: Western Australian Planning Framework

1. CITATION

1.1 This is a State Planning Policy (SPP) made under Section 26 of the *Planning and Development Act (2005)*. It applies to all land within Western Australia. This policy may be cited as State Planning Policy No. 1: State Planning Framework.

2. PURPOSE

2.1 The Western Australian Planning Commission (Commission) prepared and adopted the State Planning Strategy 2050 (2014) pursuant to Section 14(b)(i) of the *Planning and Development Act (2005)*. It sets out the key principles relating to environment, community, economy, infrastructure, regional development and governance which should guide the way in which future planning decisions are made.

2.2 The State Planning Strategy provides the overall vision and is further articulated and applied by strategies, policies and plans dealing with particular planning issues or regions of the State.

2.3 This SPP restates and expands upon the key principles of the State Planning Strategy in planning for sustainable land use and development. It brings together existing State and regional policies, strategies, and guidelines within a central State Planning Framework (Framework) which provides a context for decision-making on land use and development in Western Australia

2.4 The Framework informs the Commission, local government and others involved in the planning process on State level planning policy which is to be taken into consideration, and given effect to, in order to ensure integrated decision-making across all spheres of planning.

2.5 The Framework identifies relevant policies and strategies used by the Commission in making decisions and may be amended from time to time.

2.6 The Framework is the overarching State Planning Policy. Additional SPPs set out the Commission's policy position in relation to aspects of the State Planning Strategy principles.

3. USE OF THE FRAMEWORK

3.1 The State Planning Policy Framework (Figure 1) includes all current planning policies, strategies and guidelines of the Commission (Tables 1-5) that provide direction on the form and methods of growth and development. They are divided into functional categories and may be amended from time to time.

a) The Commission and local governments must have due regard to the provisions that form part of this Framework in preparing planning schemes and planning decision making.

b) Region and Local Planning Schemes made pursuant to the *Planning and Development Act (2005)* may, by the procedure established under that Scheme, incorporate any provision of the Framework by reference so that it forms part of the Region or Local Planning Scheme and has the force of law.

c) The Commission will assess all proposals requiring Commission determination against the Framework to ensure compliance and consistency.

d) With the consent of the Minister, a local government may incorporate any provision of the Framework by reference so that it forms part of a local planning scheme and has the force of law.

e) Each instrument listed shall be called a provision for the purposes of this State Planning Policy.

f) The provisions include State Planning Policies; Regional and Sub-regional Strategies; Operational Policies; Position Statements; and Guidelines:

i State Planning Policies

Directed primarily towards broad general planning and facilitating the coordination of planning throughout the State by local governments. May make provision for any matter which may be the subject of a local planning scheme. In preparing a State Planning Policy, the Commission is to have regard to the matters set out in s27 of the *Planning and Development Act (2005)*.

ii Regional and Sub-regional Strategies

Provide for the comprehensive planning of regions, sub-regions or particular locations to guide change and a basis for cooperative action to be taken by State and local government on land use and development.

iii Operational Policies

Guide decision-making on subdivision and development applications as well as broader application as deemed appropriate. Operational Policies include general policies as well as particular policies on residential, rural, industrial and commercial subdivision, and development on land reserved under a region scheme.

iv Position Statements

Set out the policy position or advice of the Commission with respect to a particular planning practice or matter.

v Guidelines

Provide detailed guidance on the application of Commission policies.

4. PROVISIONS OF THE FRAMEWORK

4.1 Where there is a conflict between one provision of the Framework and another, the following rules of interpretation apply:

a) The provisions shall be liberally construed to avoid the conflict where the terms permit.

b) Provisions higher in the hierarchy generally prevail over provisions lower in the hierarchy.

c) Provisions which are more recent in time generally prevail over provisions less recent.

d) Provisions which address more specific issues generally prevail over provisions which are more general in scope.

e) Even in the event of a conflict, decision-makers must turn their minds to all relevant provisions, although the above criteria may offer guidance in terms of applying appropriate weight or discretion.

5. GENERAL PRINCIPLES FOR LAND USE PLANNING AND DEVELOPMENT

The following principles are derived from the *State Planning Strategy 2050 (2014)*. They form the basis for this Framework and form the underlying principles for all State and regional plans, policies and strategies.

1. The primary aim of planning is to provide for the sustainable use and development of land.
2. The State Planning Strategy identifies the six key principles which further define this primary aim and describe the considerations which influence good decision-making in land use planning and development. Each principle includes factors representing good and responsible decision-making in land use planning. Planning should take account of and give effect to, these principles and related policies to ensure integrated decision-making throughout government.

Community

Principle:
Enable diverse, affordable, accessible and safe communities

Planning anticipates and responds to the needs of existing and future communities through the provision of zoned and serviced land for housing, employment, recreation and open space, commercial and community facilities. Planning should recognise the need for and, as far as practicable, contribute towards more sustainable communities by:

i accommodating future population growth and providing housing choice and diversity to suit the needs of different households, including specialist housing needs, and the services they require;

ii promoting a range of accessible community resources, including affordable housing, places of employment, open space, urban tree canopy, education, health, cultural and community services;

iii integrating land use and transport planning and promoting patterns of land use which reduce the need for transport, promote the use of public transport and reduce the dependence on private cars;

iv. ensuring high standards of urban design and encouraging safe environments and a sense of neighbourhood and community identity;

v. promoting commercial areas as the focus for shopping, employment and community activities at the local, district and regional levels; and

vi. providing effective systems of community consultation at appropriate stages in the planning and development process.

Economy

Principle:
Facilitate trade, investment, innovation, employment and community betterment

Planning should contribute to the economic well-being of the State, regions and local communities by supporting economic development through the provision of land, facilitating decisions and resolving land use conflicts. In particular, planning should provide for economic development by:

i. providing suitable zoned and serviced land for industry, business and other employment and wealth generating activities;

ii. protecting agricultural land resources from inappropriate uses;

iii. avoiding land use conflicts by separating sensitive and incompatible uses from industry and other economic activities with off-site impacts;

iv. promoting local employment opportunities in order to reduce the time and cost of travel to work;

v. providing sites for tourism accommodation and facilities taking account of their special location and servicing needs; and

vi. ensuring that plans and policies are clear and certain, decisions are made in accordance with plans and policies, and decisions are made expeditiously.

Environment

Principle:
Conserve the State's natural assets through sustainable development

The protection of environmental assets and the wise use and management of resources are essential to encourage more ecologically sustainable land use and development. Planning should contribute to a more sustainable future by:

i. promoting the conservation of ecological systems and the biodiversity they support including ecosystems, habitats, species and genetic diversity;

ii. assisting in the conservation and management of natural resources, including air quality, energy,

waterways and water quality, land, agriculture and minerals, to support both environmental quality and sustainable development over the long term;

iii. protecting areas and sites with significant historic, architectural, aesthetic, scientific and cultural values from inappropriate land use and development;

iv. adopting a risk-management approach which aims to avoid or minimise environmental degradation and hazards; and

v. preventing environmental problems which might arise as a result of siting incompatible land uses close together.

Infrastructure

Principle:
Ensure infrastructure supports development

Planning should ensure that physical and community infrastructure by both public and private agencies is coordinated and provided in a way that is efficient, equitable, accessible and timely. This means:

i. planning for land use and development in a manner that allows for the logical and efficient provision and maintenance of infrastructure, including the setting aside of land for the construction of future transport routes and essential services;

ii. protecting key infrastructure, including ports, airports, roads, railways and service corridors, from inappropriate land use and development;

iii. facilitating the efficient use of existing urban infrastructure and human services and preventing development in areas which are not well serviced, where services and facilities are difficult to provide economically and which creates unnecessary demands for infrastructure and human services; and

iv. encouraging consultation with providers of infrastructure, to ensure they have regard to planning policies and strategic land use planning when making their investment decisions, in order to ensure that land use and development are closely integrated with the provision of infrastructure services.

Regional Development

Principle:
Build the competitive and collaborate advantages of the regions

Planning responds to the unique characteristics of, and enables the building of, vibrant regional communities and regions with strong economies by guiding land use, development and availability of land to support investment. Land use planning and development processes:

1. facilitate strong and resilient regional communities and regions by promoting a diverse range of land uses and developing regional resources through economic diversification and expansion and inter-regional collaboration;

ii. facilitate regional communities to achieve optimal opportunities by co-ordination of land uses and related impacts, standards of development and availability of land, recognising the longer term sustainability impacts on communities and Government;

iii. allow regional centres to capture investment to create and sustain growth, cognisant of the implications and sustainable management of various development options;

iv. enable remote settlements to maintain economic and community development through improved connectivity, services and cultural processes.

Governance

Principle:
To build community confidence in development processes and practices

Governance ensures decision-making processes which are informed by policy and focused on delivering planning and development outcomes that reflect the public interest. In carrying out their responsibilities under the State's planning legislation and policy framework, planning decision makers should demonstrate sound governance by:

i. Ensuring policy is based on proper planning principles and practice and on evidence, subjected to public consultation processes and reviewed regularly to ensure currency.

ii. Ensuring decisions articulate the planning instruments and policies relevant to a proposal, apply policy consistently and are made in a timely manner.

iii. Assessing planning proposals on their merits, applying discretion where justified, and clearly articulating the reasons for any departures from policy.

iv. Promoting transparency and providing appropriate opportunity for public participation in decision making processes.

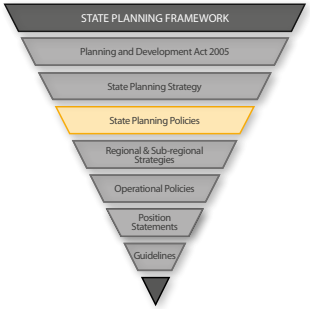


Table 1: State Planning Policies and Related Guidelines

		STATE PLANNING POLICIES	RELATED GUIDELINES
Environment	2.0	Environment and Natural Resources	
	2.1	Peel-Harvey Coastal Plain Catchment	
	2.2	Gnangara Groundwater Protection	
	2.3	Jandakot Groundwater Protection	
	2.4	Basic Raw Materials	Basic Raw Materials Applicants' Manual
	2.6	State Coastal Planning	Coastal Planning and Management Manual Coastal Hazard Risk Management and Adaptation Planning State Coastal Planning Policy
	2.7	Public Drinking Water Source	
	2.8	Bushland Policy for Perth	
	2.9	Water Resources	Better Urban Water Management
	2.10	Swan-Canning River System	
Community, Urban Growth and Settlement	2.5	Rural Planning	Rural Planning
	3.0	Urban Growth and Settlement	
	3.1	Residential Design Codes	
	3.2	Aboriginal Settlements	Aboriginal Settlements: 1. Layout Plan Provisions 2. Provision of Housing and Infrastructure 3. Layout Plan Exclusion Boundaries
	3.4	Natural Hazards and Disasters	
	3.5	Historic Heritage Conservation	
	3.6	Development Contributions for Infrastructure (Draft Revised Version)	Development Contributions for Infrastructure Guidelines (Draft)
	3.7	Planning in Bushfire Prone Areas	Planning in Bush-fire Prone Areas
	4.1	Industrial Interface (Draft)	
	4.2	Activity Centres for Perth and Peel	
Economy, Infrastructure and Regional Development	5.1	Land Use Planning in Vicinity of Perth Airport	Aircraft Noise Insulation for Residential Development in the Vicinity of Perth Airports
	5.2	Telecommunications Infrastructure	
	5.3	Land Use Planning in Vicinity of Jandakot Airport	
	5.4	Road and Rail Noise (Draft)	Road and Rail Noise (Draft)
	6.1	Leeuwin-Naturaliste Ridge	
	6.3	Ningaloo Coast	
Design of the Built Environment	7.0	Design of the Built Environment (Draft)	
	7.1[1]	Neighbourhood Design (Under Development)	
	7.2	Precinct Design (Under Development)	
	7.3[2]	Apartment Design (Draft)	
	7.4[3]	House Design (Under Development)	

[1] To replace Liveable Neighbourhoods (OP)
[2] Currently Part 6 of Residential Design Codes
[3] Currently Part 5 of Residential Design Codes. To incorporate:
- Medium-density single house development standards – Development Zones (PS)
- Multiple Dwellings in R40 coded areas and variation to R-Codes Multiple Dwelling development standards (PS)

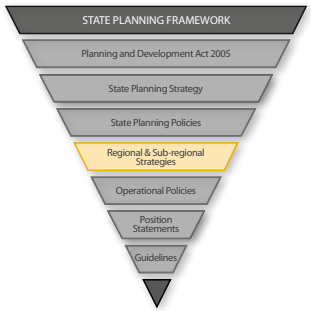


Table 2: Regional and Sub-Regional Strategies

REGIONAL STRATEGIES	SUB-REGIONAL STRATEGIES
Directions 2031 and Beyond Perth and Peel@3.5million (Draft)	Capital City Planning Framework North-West Sub-Regional Framework (Draft) North-East Sub-Regional Framework (Draft) Central Sub-Regional Framework (Draft) South Metropolitan Peel Sub-Regional Framework (Draft)
Kimberley Region Planning and Infrastructure Framework	Dampier Peninsula Planning Strategy
Pilbara Region Planning and Infrastructure Framework	
Gascoyne Region Planning and Infrastructure Framework	Ningaloo Coast Regional Strategy Carnarvon to Exmouth Shark Bay Regional Strategy
Mid-West Region Planning and Infrastructure Framework	Greater Geraldton Structure Plan Update Geraldton Region Plan Central Coast Sub-Regional Strategy (Draft)
Goldfields-Esperance Region Planning and Infrastructure Framework	Goldfields-Esperance Regional Planning Strategy
Wheatbelt Region Planning and Infrastructure Framework	Central Coast Sub-Regional Strategy (Draft)
South West Region Planning and Infrastructure Framework	Greater Bunbury Strategy Activity Centres for Greater Bunbury Policy Warren-Blackwood: Sub-Regional Planning and Rural Strategies Augusta-Walpole Coastal Strategy Leeuwin Naturaliste Sub-Regional Strategy (draft)
Great Southern Region Planning and Infrastructure Framework	Lower Great Southern Sub-Regional Strategy

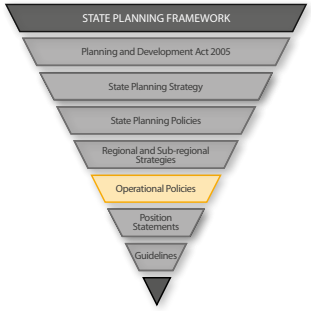


Table 3: Operational Policies

Environment	
Community, Urban Growth and Settlement	Development Control – General Principles (DCP 1.2) Strata Titles (DCP 1.3) General Road Planning (DCP 1.7) Canal Estates and Artificial Waterway Developments (DCP 1.8) Amendment to Region Schemes (DCP 1.9) Freeway service centres and roadhouses (DCP 1.10) Special Residential Zones (DCP 2.5) Advertising on Reserved Land (DCP 5.4)
Economy, Infrastructure and Regional Development	Government Sewerage Policy Subdivision of Rural Land (DCP 3.4) Industrial Subdivision (DCP 4.1) Planning for Hazards and Safety (DCP 4.2) Regional Roads (Vehicular Access) (DCP 5.1) Planning for High-Pressure Gas Pipelines (Draft DCP) Peel Region Scheme Boating Facilities Policy Peel Region Scheme Floodplain Management Policy Peel Region Scheme Priority Agricultural and Rural Land Use Policy Peel Region Scheme Strategic Minerals and Basic Raw Materials Resource Policy Greater Bunbury Region Scheme Floodplain Management Policy Greater Bunbury Region Scheme Priority Agricultural and Rural Land Use Policy Greater Bunbury Region Scheme Strategic Minerals and Basic Raw Materials Resource Policy
Design of the Built Environment	Liveable Neighbourhoods Subdivision of Land – General Principles (DCP 1.1) Planning to Support Transit Oriented Development (DCP 1.6) Residential Subdivision (DCP 2.2) Public Open Space in Residential Areas (DCP 2.3) School Sites (DCP 2.4) Land Reserved for Parks and Recreation and Open Space (DCP 5.3)

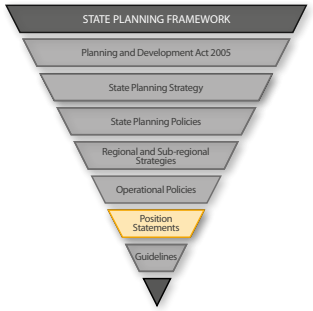


Table 4: Position Statements

Environment	
Community, Urban Growth and Settlement	
Economy, Infrastructure and Regional Development	Caretakers' Dwellings in Industrial Areas Wind Farm Development Planning for Tourism Caravan Parks Holiday Homes
Design of the Built Environment	Rights-of-Way or Laneways in Established Areas Cash-in-Lieu of Public Open Space

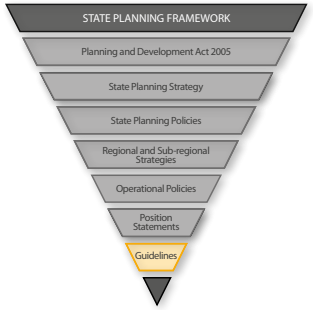


Table 5: Guidelines (those not directly linked to a SPP)

Environment	Acid Sulfate Soils Planning
Community, Urban Growth and Settlement	Child Care Centres Lifting of Urban Deferment Lifting of Industrial Deferment (Greater Bunbury)
Economy, Infrastructure and Regional Development	Preparation of integrated transport plans Transport Impact Assessment Indian Ocean Drive Planning Tourism Planning
Design of the Built Environment	Visual Landscape Planning in WA Manual IPWEA Subdivision Engineering Edition 2.2 Designing Out Crime Planning Reducing Crime and Anti-Social Behaviour in Pedestrian Access Ways Procedure for the Closure of Pedestrian Access Ways Design Review Guide(Draft)

Annexure SGA15

SPP2.0 Environmental Natural Resources Policy

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WESTERN AUSTRALIAN PLANNING COMMISSION

STATEMENT OF PLANNING POLICY No. 2

ENVIRONMENT AND NATURAL RESOURCES POLICY

PREPARED UNDER SECTION 5AA OF THE TOWN PLANNING AND DEVELOPMENT ACT 1928

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WESTERN AUSTRALIAN PLANNING COMMISSION

STATEMENT OF PLANNING POLICY No. 2

ENVIRONMENT AND NATURAL RESOURCES POLICY

PREPARED UNDER SECTION 5AA OF THE TOWN PLANNING AND DEVELOPMENT ACT 1928

1. CITATION

This a Statement of Planning Policy made under Section 5AA of the *Town Planning and Development Act 1928*. This policy may be cited as the Statement of Planning Policy: Environment and Natural Resources Policy.

2. INTRODUCTION AND BACKGROUND

Western Australia is one of the most biologically diverse regions in the world, home to a broad range of ecological communities and species, and natural landscapes. The State's vast areas encompass rich and extensive agricultural, pastoral, marine and mineral resources. The protection and wise management of the environment and natural resources of the State are of paramount importance if we are to maintain our lifestyle now and into the future. This requires acknowledgement of the intrinsic value of the environment, as well as an understanding of the importance of ecological processes in the production and maintenance of healthy soils, clean air and water: the natural resource base which supports life and our lifestyle. It is therefore essential to resolve land use conflicts between use and protection of natural resources, having consideration of potential impacts on the environment, as well as those on community lifestyle and the economy.

The concept of sustainability in terms of our natural environment and resources is established in the *State Planning Strategy* (1997), which is directed towards ensuring a balance between economic growth and the conservation and enhancement of our natural environment in order to provide a better quality of life for the present and into the future. The concept of sustainability is further refined in the draft *Western Australian State Sustainability Strategy* (2002) as meeting the needs of current and future generations through simultaneous environmental, social and economic improvement.

The Sustainability Strategy vision for Western Australia in terms of the sustainable use of natural resources is: 'Western Australia's vast landscape and seascape, intricate web of biodiversity and other natural resources are managed and used sustainably for the common good and the community is involved in management and planning processes that are transparent and visionary'. This focus on sustainability reflects national agreements such as the *National Strategy for Ecologically Sustainable Development* (1992) and the *National Strategy for the Conservation of Australia s Biological Diversity* (1996). As well, there are global obligations to protect natural resources through international treaties.

The key to sustainability in the planning sector is integrating ecological, economic and social considerations into decision-making. This policy sets out the key principles of how this can be done with environment and natural resource issues.

In order to meet the objectives of sustainability, there is a clear need to protect our land, air and water, vital resources that support our diverse range of flora, fauna and ecosystems, from unacceptable levels of loss or degradation. This involves the maintenance of vital ecological processes and systems on which life depends, and an understanding of how these complex systems, our natural resources, interact within Western Australia.

The *Environment Western Australia 1998: State of the Environment Report* (1998) and subsequent updates describe the condition of the environment and natural resource use sectors, including associated pressures. The report prioritises specific environmental issues in terms of environmental status and proposes responses to these, including the identification of environmental indicators for each of the important environmental issues.

The draft *Western Australian State Sustainability Strategy* (2002) reaffirms the proposals of the *Government Framework to Assist in Achieving Sustainable Natural Resource Management in Western Australia* (1999) in the need for an integrated and co-ordinated approach to the management of natural resources in the State. It proposes a framework of principles, visions and actions to develop effective partnerships between all stakeholders including the community, industry, and local government. It also recognises that local government and State government statutory planning powers can be used to implement natural resource and environmental issues. The Western Australian Planning Commission (WAPC) acknowledges the role given to Regional Groups in the Cabinet endorsed Natural Resource Management Framework, and is committed to assisting these groups to achieve government policy objectives.

Careful assessment will be required to resolve conflicts between land use and protection of natural resources, giving consideration to potential impacts on the environment, community lifestyle preferences, and economic values. This requires an understanding of the competing pressures of development and environmental protection, together with the economics of sustainable land use and management practices,

advances in technology, and the priorities of the community. Land use planning decisions will often seek to minimise trade-offs in order to achieve the best outcome for the community, the environment and the economy.

Integrated land use planning and management is a practical way to achieve effective and efficient use of the natural resources of the State. There is a clear and explicit need to incorporate environmental considerations and resource management into the planning process to ensure that decisions are made in the context of potential impacts on the environment and our natural resources. In the same way, it is possible for more use to be made of the planning system in managing these issues. It is possible to achieve land use change and development that have positive environmental outcomes or that reduce the degree of negative impact on the environment.

The Environment and Natural Resources (ENR) policy is a broad, sector issue policy under *Statement of Planning Policy No. 8: State Planning Framework Policy*. It defines the principles and considerations that represent good and responsible planning in terms of environment and natural resource issues within the framework of the State Planning Strategy. The ENR policy will be supplemented by more detailed planning policies on particular natural resources matters that require additional information and guidance. These supplementary policies may also be Statements of Planning Policy and should be implemented in conjunction with this policy.

3. APPLICATION OF THE POLICY

The policy applies throughout Western Australia.

4. OBJECTIVES

The objectives of this policy are:

- to integrate environment and natural resource management with broader land use planning and decision-making;
- to protect, conserve and enhance the natural environment; and
- to promote and assist in the wise and sustainable use and management of natural resources.

5. POLICY MEASURES

The above objectives provide the context for the policy measures which are set out below under the following headings:

- General Measures
- Water Resources
- Air Quality
- Soil and Land Quality
- Biodiversity
- Agricultural Land and Rangelands
- Minerals, Petroleum and Basic Raw Materials
- Marine Resources and Aquaculture
- Landscapes
- Greenhouse Gas Emissions and Energy Efficiency

5.1 General Measures

The implementation of planning decisions can have an impact on the environment and other natural resources. The following policy measures recognise the significance of natural resources, and should be read in conjunction with the more specific statements on aspects of natural resources that follow.

Planning strategies, schemes and decision-making should:

(i) Avoid development that may result in unacceptable environmental damage.

(ii) Actively seek opportunities for improved environmental outcomes including support for development which provides for environmental restoration or enhancement.

(iii) Take account of the availability and condition of natural resources, based on best available information at the time.

(iv) Protect significant natural, indigenous and cultural features, including sites and features significant as habitats and for their floral, cultural, built, archaeological, ethnographic, geological, geomorphological, visual or wilderness values.

(v) Take into account the potential for economic, environmental and social (including cultural) effects on natural resources.

(vi) Recognise that certain natural resources, including biological resources, are restricted to particular areas and that these geographical areas or land types may need to be identified accordingly and appropriate provision made to protect the areas for the use of those resources.

(vii) Take account of the potential for on-site and off-site impacts of land use on the environment, natural resources and natural systems[1].

(viii) Safeguard and enhance areas of environmental significance on the coast including the marine environment.

(ix) Ensure use and development on or adjacent to the coast is compatible with its future sustainable use for conservation, recreation and tourism in appropriate areas.

(x) Support conservation, protection and management of native remnant vegetation where possible, to enhance soil and land quality, water quality, biodiversity, fauna habitat, landscape, amenity values and ecosystem function.

(xi) Consider alternatives to land acquisition for conservation and landscape protection where limited or no public access is required.

(xii) Take into account the potential for impacts from changes in climate and weather on human activities and cultural heritage including coastal and urban communities, natural systems and water resources.

(xiii) Consider any relevant accredited Natural Resource Management Regional Strategy, or catchment management strategies prepared by catchment groups and endorsed by State government agencies, with a view to integrating implementation of appropriate and relevant parts through town planning schemes and assessment of developments.

5.2 Water Resources

Water is fundamental to human life and the environment. The careful management of water resources, both in terms of quantity and quality, is therefore essential to support natural ecosystems as well as future growth and development. This includes water catchments, waterways, wetlands, estuaries and the marine environment.

The State *Water Quality Management Strategy for Western Australia* (2001) (SWQMS) is the State framework for implementation of the *National Water Quality Management Strategy* (1994) (NWQMS). The prime objective of the NWQMS is 'to achieve sustainable use of the nation's water resources by protecting and enhancing their quality while maintaining economic and social development.' This ENR Policy is thus consistent with the guiding principles of the NWQMS and the SWQMS, as well as the *Wetlands Conservation Policy for WA* (1997), which aims to prevent further loss or degradation of valuable wetlands in Western Australia.

Planning strategies, schemes and decision making should:

(i) Consider mechanisms to protect, manage, conserve and enhance:

a. wetlands of importance, Ramsar wetlands and wetlands identified in any relevant *Environmental Protection Policy;*

b. waterways;

c. estuaries;

d. marine environments;

e. gazetted public drinking water source areas; and

f. other water sources which sustain catchments and identified environmental values.

(ii) Take account of the availability of water resources to ensure maintenance of water quality and quantity for existing and future environmental and human uses.

(iii) Encourage urban water management through water sensitive design approaches that better manage stormwater quality and quantity; that reduce the impact of stormwater flows to streams, wetlands and coastal waters; and that control or remove pollutants and nutrients so as to improve water quality, retain habitats, conserve water and provide for recreational opportunities and conservation functions through multiple use drainage systems.

(iv) Ensure the provision of adequate setbacks between development and the foreshores of wetlands, waterways, estuaries and the coast, in order to maintain or improve the ecological and physical function of water bodies. Such setbacks will aim to maintain the natural drainage function, protect wildlife habitats and landscape values, lessen erosion of banks and verges, and facilitate filtration of sediment and waste associated with surface run-off from adjacent land uses, which may include retention or replacement of riparian vegetation.

[1] This includes threatening processes, which are processes which threaten or may threaten the survival, abundance or evolutionary development of a native species or ecological community. The Commonwealth's *Environmental Protection and Biodiversity Conservation Act 1999* provides for the identification and listing of key threatening processes such as dieback, land clearance or predation by feral cats.

(v) Consider flood risk by identifying floodways and land affected by 1 in 100 year flood events and avoid intensifying the potential for flooding as a result of inappropriately located land uses and development.

(vi) Consider the risks associated with nuisance or disease vector insects, in particular mosquitoes and midges, and ensure appropriate measures are applied to manage potential conflicts with community amenity and health, and environmental values.

5.3 Air Quality

Air quality is a local, national and global concern. At the global scale, the key natural resource management issues are the emission of greenhouse gases, which has been linked to climatic changes, primarily in temperature and rainfall, and the depletion of the stratospheric ozone layer that affects the amount of ultraviolet light reaching the Earth.

Regional and local air quality problems are primarily the result of industrial and domestic emissions, vehicle use and land use practices such as agriculture and forestry. In Western Australia the key regional and local air quality issues are photochemical smog and haze from particulates (solid and liquid), sulphur dioxide, dust and air toxics.

Western Australia has adopted the *National Environmental Protection Measure for Ambient Air Quality* (1998) which sets air quality standards for each major air pollutant. The *Air Quality Management Plan for Perth* (2000) proposes to address issues of air quality in Perth through a number of strategies including better integration of land use and transport planning.

Planning strategies, schemes and decision-making should:

(i) Promote urban development patterns, densities and form that support reduced travel demand, increased availability and access to public transport and that encourage walking and cycling.

(ii) Have regard to the potential for conflict between sensitive land uses and activities with air emission impacts.

(iii) Have regard to the relevant requirements of the *National Environmental Protection Measure for Ambient Air Quality* (1998), the *Environmental Protection (Kwinana) (Atmospheric Waste) Policy* (1992), the *Environmental Protection (Goldfields residential areas)(sulphur dioxide) Policy* (1992) and *Statement of Planning Policy No. 4: State Industrial Buffer Policy.*

5.4 Soil and Land Quality

Land is an essential physical and economic resource, which is fundamental to the existence of flora and fauna and is essential to maintaining biodiversity. Changes in the environment, such as extensive land clearing for agriculture and settlement, and intensification of land use, can have a profound effect on land quality by removing its protective cover and creating the potential for erosion, salinity and loss of soil and water quality. Land is used for a variety of purposes. Careful consideration is necessary to ensure land is allocated to appropriate uses that minimise land degradation and resource use conflicts. Specific consideration should be given to land capability and suitability, and exploration of different options for use when decisions are made about the future use and development of land. Soil contamination, wind and water erosion, acidity, loss of soil cover and biodiversity, water logging and salinity are particular issues requiring attention.

The *Report of the Salinity Taskforce* (2001) and the *Government Response to the Salinity Taskforce Report: Salinity: a new balance* (2002) set out a strategy to manage salinity and outline the management options and tools that are available to landholders across the south-west agricultural zone. It highlights the need for urgent and large-scale intervention on the hydrological system if the Strategy's goals are to be achieved. This policy is consistent with the goals and strategic approach of the Salinity Taskforce.

Planning strategies, schemes and decision-making should:

(i) Have regard to the capability of land to accommodate different land uses and developments, including erosion hazard, the absorptive capacity of soils, slope stability, potential for variable settlement or subsidence, active fault lines and dune migration.

(ii) Recognise and consider land that is degraded or contaminated, or has the potential to become so, and facilitate its rehabilitation or remediation for appropriate future use.

(iii) Ensure that land uses that may result in land contamination such as storage of chemicals, waste, other toxic materials or liquid fuel are not permitted unless it can be demonstrated that the proposed activities will not result in contamination of land or adverse effects on future land use.

(iv) Identify existing and potential areas affected by salinity, acid sulphate soils or other severe land degradation problems and, where appropriate, facilitate measures such as promoting vegetation retention, replanting in groundwater recharge areas, and prevention of inappropriate development, in order to reduce impacts on land, buildings and infrastructure.

5.5 Biodiversity

Biodiversity describes the variability among living organisms from all sources (including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part) and includes diversity within and between species and the diversity of ecosystems.[2]

Biological diversity underpins ecological processes essential for maintenance of marine and estuarine quality, soil fertility and clean, fresh water and air. Biodiversity is also fundamental to the quality and character of the landscape and in providing recreational opportunities, aesthetic value and cultural identity. Planning should recognise the State's biodiversity in considering changes of land use, including consideration of any future potential value, such as for medicinal purposes or as a source of genetic material.

The protection and enhancement of biodiversity is guided by the *National Strategy for the Conservation of Australia's Biological Diversity* (1996) and the *National Objectives and Targets for Biodiversity Conservation 2001-05.* There are also a number of statutory and non-statutory mechanisms designed to protect, manage and conserve areas identified as of high State, regional or local biodiversity value for Western Australia.

Planning strategies, schemes and decision-making should:

(i) Consider mechanisms to protect areas of high biodiversity and/or conservation value, including:
   a. land vested in the Conservation Commission as national park, nature reserve, conservation park or other reserve, and land acquired and managed by the Department of Conservation and Land Management (CALM) pending formal reservation;
   b. land and waters vested in the Marine Parks and Reserves Authority as marine park, marine nature reserve or marine management area, and areas identified in the *Report of the Marine Parks and Reserves Selection Working Group*;
   c. land identified as a Biosphere Reserve under the UNESCO Man and Biosphere program;
   d. land containing Threatened Flora or Threatened Ecological Communities (CALM database) or that which is habitat to Threatened Fauna;
   e. regionally significant vegetation within the Swan Coastal Plain area of the Perth Metropolitan Region as identified in *Bush Forever* (2000);
   f. areas formally recognised as having significance for conservation or biodiversity values by the State Government as identified in management plans under the *Conservation and Land Management Act* (1984), the *Regional Forest Agreement* (1999), regional planning strategies, the Environmental Protection Authority (1976-1983) *Conservation Reserves for Western Australia as recommended by the Environmental Protection Authority [Systems 1 to 12]* as updated from time to time, and other relevant plans and strategies;
   g. Ramsar wetlands and wetlands recognised as habitat for migratory species;
   h. nationally significant wetlands listed in the *Directory of Important Wetlands in Australia* (2001);
   i. wetlands identified in any relevant Environmental Protection Policy (EPP), such as the Swan Coastal Plain Lakes EPP and the South-West Agricultural Zone EPP; and
   j. areas listed on the World Heritage List.

(ii) Seek to avoid or minimise any adverse impacts, directly or indirectly, on areas of high biodiversity or conservation value as a result of changes in land use or development.

(iii) Assist in establishing a comprehensive, adequate and representative conservation reserve system throughout the State for flora, fauna habitat, landscapes, waterways, estuaries and wetlands.

(iv) Safeguard and enhance linkages between terrestrial and aquatic habitats which have become isolated, including the re-establishment of habitat corridors.

(v) Assist the return of areas of high biodiversity conservation value to the public estate or otherwise ensure the protection of high biodiversity conservation values through mechanisms including planning controls or conservation covenants.

(vi) Support the use of management plans to protect areas of high biodiversity conservation value in the long term.

5.6 Agricultural Land and Rangelands

Western Australia contains large areas devoted to agricultural pursuits such as livestock, cropping and horticulture, as well as pastoral grazing on the arid and semi-arid rangelands of the north. These natural resource assets require consideration in terms of ecological diversity and the environment, as well as the social and cultural values of communities.

[2] Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

In the more remote parts of the State, social issues such as rural decline is increasing the pressure on natural resources, as a community's capacity for management decreases whilst requirements to intensify agricultural activities are increased.

The rangelands cover over 85% of Western Australia and contain essential elements of the State's biological diversity. Only about 2% of Western Australia's population lives in these arid and semi-arid lands. Pastoralism is by far the most extensive use, although these lands produce the majority of the State's mineral and energy wealth.

Productive agricultural land is a finite resource that must be managed sustainably for the long term. Planning should ensure that the State's agricultural base is protected from the unplanned loss of high quality productive agricultural land due to permanent changes of land use, and maximise the potential of productive farm land which is of high quality and strategic significance in the State, regional and local context. The *Statement of Planning Policy No. 11: Agricultural and Rural Land Use Planning Policy* requires identification and protection of agricultural areas of State, regional and local significance through identification in regional planning schemes, local planning strategies and town planning schemes.

Planning strategies, schemes and decision-making should:

(i) Protect and enhance areas of agricultural significance, having regard to State, regional and local issues and characteristics, and to the requirements of *Statement of Planning Policy No. 11: Agricultural and Rural Land Use Planning*.

(ii) Consider the natural resource capability of rangelands and agricultural lands.

(iii) Diversify compatible land use activities in agricultural areas and rangelands based on principles of sustainability and recognizing the capability and capacity of the land to support those uses.

5.7 Minerals, Petroleum and Basic Raw Material Resources

Mineral resources, petroleum resources and basic raw materials are important natural resource assets and are a vital part of the economy, contributing 30% to Western Australia's gross domestic product. Mineral production is very diverse with over 50 different minerals in commercial production. The main minerals produced are iron ore, gold and alumina which, with petroleum, provide 80% of the total minerals mined in Western Australia. Mineral exploration is managed under the *Mining Act 1978*.

The Western Australian Petroleum Industry accounts for a substantial portion of the State's earnings from resources development. Onshore gas fields and pipelines carrying gas to domestic markets, processing plants and other industrial sites, require protection in the form of setback distances and dedicated easements, that safeguard the infrastructure and the safety of local communities. The activities of the oil and gas industries are administered by the Department of Mineral and Petroleum Resources, using petroleum legislation and regulations.

Basic raw materials include sand, clay, hard rock, limestone and gravel together with other construction and road building materials. A ready supply of basic raw materials close to developing areas is required in order to keep down the cost of land development and the price of housing. The extraction of basic raw materials on Crown land is covered by the *Mining Act 1978* while quarrying of basic raw materials on private land is administered by local government.

Planning strategies, schemes and decision-making should:

(i) Identify and protect important and economic mineral resources to enable mineral exploration and mining in accordance with acceptable environmental standards.

(ii) Identify and protect important basic raw material resources and provide for their extraction and use in accordance with *Statement of Planning Policy No. 10: Basic Raw Materials*.

(iii) Support sequencing of uses where appropriate to maximise options and resultant benefits to community and the environment.

(iv) Have regard to the *State Gravel Supply Strategy* (1998), the draft *Towards a State Lime Strategy* (2001) and any other Government adopted basic raw material or mineral strategy, in considering proposals for the extraction of basic raw materials and mineral resources.

(v) Support, where possible, improved efficiencies in the production and consumption of mineral and basic raw material resources to ensure their availability for future environmental and human uses.

5.8 Marine Resources and Aquaculture

Commercial and recreational fishing and aquaculture are important contributors to the State's economy, and adequate protection of marine, estuarine and riverine environments and resources that support these industries is required.

Whilst commercial fishing activities in Western Australia are focused in the marine environment, recreational fishing also occurs in creeks and estuaries and along the shore and contributes greater than

$570 million annually to the State's economy. Aquaculture continues to increase its importance, as new land based and marine aquaculture sites are established throughout the State.
Planning should recognise and account for areas of significance and ensure compatibility of land use planning decisions and actions associated with, and adjacent to, these areas.
Western Australia's planning system does not directly engage in planning for the marine environment. However, the need for integrated marine planning is acknowledged, and will be assisted by the preparation of a State marine planning strategy. Further, *Oceans Policy* (1999) outlines the Commonwealth government's intention to prepare regional marine plans. This includes Commonwealth waters adjacent to Western Australia.
Planning strategies, schemes and decision-making should:

(i) Take account of the location of areas of significance for recreational and commercial fishing and aquaculture, having regard to State, regional and local issues and characteristics. This should include land based infrastructure that supports these industries.

(ii) Seek to avoid or minimise any adverse impacts, directly or indirectly, on areas of significance for commercial and recreational fishing and aquaculture as a result of adjacent land use planning decisions and actions.

5.9 Landscape

Western Australia has a diversity of high value landscapes and scenic areas, many of which are unique to Australia. These range from the unmodified semi-arid and subtropical landscapes of the north and east of the State to modified rural farming landscapes in the south-west, and encompass a diversity of natural coastal landscapes, vast flat plains, mountain ridges and forested areas.
There is an increasing appreciation and valuing of natural landscapes by the community. These landscapes provide opportunities for recreation and tourism and fulfil a psychological need in providing a contrast to the urban environments in which the majority of Australians live.
It is recognised that landscapes change in response to demands for primary products, recreation and tourism as well as for rural living. Furthermore, the values of the community with regard to landscapes also change over time. Accordingly, as the State grows, it will be increasingly important to ensure that those landscapes that are valued by the community are protected. To do this it is necessary to identify the landscape types and features requiring special attention, and to develop appropriate management and planning policies that can positively contribute to their maintenance and enhancement.
Planning strategies, schemes and decision-making should:

(i) Identify and safeguard landscapes with high geological, geomorphological or ecological values, as well as those of aesthetic, cultural or historical value to the community, and encourage the restoration of those that are degraded.

(ii) In areas identified in 5.9(i) above, consider the level or capacity of the landscape to absorb new activities and incorporate appropriate planning and building design and siting criteria to ensure that new development is consistent and sensitive to the character and quality of the landscape.

(iii) Consider the need for a landscape, cultural or visual impact assessment for land use or development proposals that may have a significant impact on sensitive landscapes.

5.10 Greenhouse Gas Emissions and Energy Efficiency

There is widespread awareness of the need to increase the efficiency with which energy is used in Western Australia, including the need to reduce our reliance on energy produced from non-renewable resources such as fossil fuels. The primary objective is to reduce greenhouse gas emissions by means including (but not limited to) increasing energy efficiency, decreasing reliance on non-renewable fuels, and increasing usage of renewable energy sources.
The most recent National State of the Environment report recognises that Australians have a high per capita level of greenhouse emissions by world standards, increasing by 16.9% between 1990 and 1998.
Guided by the *National Greenhouse Strategy* (1998), the *draft State Sustainability Strategy* (2002), and the State greenhouse strategy currently being developed, planning can contribute to reducing the use of energy by the community through the design of urban settlements, promoting the use of alternative fuels and encouraging landscaping to provide energy efficient microclimates. Planning can also contribute to reductions in greenhouse gas emissions by reducing car dependency and encouraging the retention of vegetation and promoting revegetation in land use and development proposals.
Planning strategies, schemes and decision making should:

(i) Promote energy efficient development and urban design incorporating such issues as energy efficient building design, walkable neighbourhoods, higher densities in areas accessible to high quality public transport, local access to employment, retail and community facilities, and orientation of building lots for solar efficiency.

(ii) Support the retention of existing vegetation and revegetation in subdivision and development proposals.
(iii) Support the use of alternative energy generation, including renewable energy, where appropriate.
(iv) Support the adoption of adaptation measures that may be required to respond to climate change.

6. IMPLEMENTATION

The purpose of this policy is to inform local governments and the Town Planning Appeals Tribunal of those aspects of State-level planning policy concerning the environment and natural resources which should be taken into account in planning decision-making, while acknowledging the inherent difficulties of balancing conflicting needs. The policy will also guide the WAPC in undertaking its planning responsibilities and, where appropriate, in integrating and co-ordinating the activities of the many State agencies that influence the use and development of land as well as the management and protection of natural resources.

Measures for implementing the policy are many and varied. Primarily, implementation will be through the preparation of strategic plans, regional and local statutory schemes, conservation and management strategies, and other relevant plans to achieve the objectives of the policy. Implementation will also occur through the day to day process of decision-making on subdivision and development applications, and the actions of other State agencies in carrying out their responsibilities. Local governments and State agencies will need to take account of these policy measures to ensure integrated decision-making and in the planning and management of the environment and natural resources.

The State Government will support local governments where appropriate in the preparation of policies and plans, and to address the issues raised within this Policy. This may include the provision of data and relevant information to assist local governments in the preparation of their town planning schemes and plans, and in making other planning decisions.

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Annexure SGA16

SPP2.5 Rural Planning Policy

Department of Planning

Western Australian Planning Commission

State Planning Policy 2.5

Rural Planning

December 2016

Prepared under Part Three of the Planning and Development Act 2005 by the Western Australian Planning Commission

Replaces State Planning Policy 4.3 as published in the Government Gazette on 18 December 1998 and 19 September 2003

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1 CITATION

This is a State Planning Policy made under Part 3 of the *Planning and Development Act 2005*. This policy may be cited as *State Planning Policy No. 2.5: Rural Planning (SPP 2.5)*.

This policy replaces *State Planning Policy No. 2.5: Land Use Planning in Rural Areas (2013)* and repeals *State Planning Policy 4.3: Poultry Farms Policy (1998)*.

This policy supersedes *State Planning Policy 2.4: Basic Raw Materials (2000)* for the shires of Gingin, Chittering, Northam and Toodyay.

2 POLICY INTENT

The purpose of this policy is to protect and preserve Western Australia's rural land assets due to the importance of their economic, natural resource, food production, environmental and landscape values. Ensuring broad compatibility between land uses is essential to delivering this outcome.

3 BACKGROUND

The changes in land use in Western Australia in the years since European settlement in 1829 have been dramatic. Clearing, subdivision, development, and use of land for settlement and agriculture provided significant economic and social benefits to the expanding Western Australian community.

Western Australia's population is expected to increase to more than five million people by 2061. Demand pressures associated with economic and population growth are occurring in an environment where the quality and availability of rural land has declined, due largely to settlement pressure, natural resource degradation and climate change.

A growing economy and population will increase the pressure on rural land to be used for a wide variety of purposes including urban settlement, economic development, infrastructure and utilities, essential services such as water supply, areas for conservation, cultural and recreational purposes, and food production.

Rural land accommodates significant environmental assets and natural landscape values, and areas with mineral, petroleum, geothermal energy and basic raw materials resources, which need to be factored into planning for rural areas.

As a result of the State's growth, rural land resources are becoming increasingly contested leading to increased competition and conflict. Sustainable planning requires decision-makers to be fully informed and requires economic, environmental and social issues to be taken into account. This policy aims to support rural land and land uses to cater for both anticipated and unexpected future needs.

3.1 Where this policy applies

This policy applies to rural land and rural land uses in Western Australia, in particular:

(a) land zoned for rural or agricultural purposes in a region or local planning scheme;

(b) land identified or proposed for rural living in an endorsed scheme or strategy;

(c) rural land uses on rural zoned land;

(d) rural land uses on land that is not zoned for rural purposes; and

(e) land that may be impacted by rural land uses.

There is a relationship between this policy and the Western Australian Planning Commission (WAPC)'s State Planning Policy 4.1, which applies to industrial land and land uses, in that both policies deal with separation distances and buffers.

Due to their size, scale and potential level of impact, some rural land uses could be considered industrial, some rural land uses are located on industrial land, and some industrial land uses are on rural land. Decision-makers will need to consider policy application in the context of the proposal.

3.2 Policy exemptions

This policy does not apply to:

(a) the extraction of basic raw materials within the Perth and Peel planning regions;

(b) areas subject to State Agreement acts;

(c) mining that is in accordance with the *Mining Act 1978*, with the exception of basic raw materials on Crown land;

(d) existing approvals in retrospect, including structure plans, subdivisions and development; and

(e) matters dealt with by the *Swan Valley Planning Act 1995* (or superseding legislation).

3.3 When this policy applies

This policy is to be applied to State and local government planning decision-making for:

(a) the preparation or assessment of region schemes, regional strategies or frameworks, sub-regional strategies, local planning strategies and schemes and structure plans or to any amendments to these;

(b) subdivision proposals for rural zoned land, in tandem with *Development Control Policy 3.4: Subdivision of rural land*; and

(c) development proposals on rural zoned land; and for rural land uses on land zoned for other purposes, in accordance with region and local scheme requirements, which can include diversification permits issued under Part 7 of the *Land Administration Act 1997* and other development on Crown land.

Where there is no WAPC endorsed strategic or statutory planning instrument in place to guide WAPC decision-making, the intent and measures of this policy shall apply. Where an endorsed strategy conflicts with the intent of State policy, this policy shall prevail, unless a regional variation has been approved by the WAPC.

3.4 Other relevant regulation and policies

Other regulations and policies overlap with the planning system, and some proposals may require approvals outside the planning system. This section outlines other factors and approvals that may be required for proposals on rural zoned land or for rural land uses:

(a) The *Environmental Protection Act 1986* defines a proposal as a project, plan, program, policy, operation, undertaking or development, or change in land use, or amendment of any of these, but does not include a scheme. Proposals that are likely to have significant environmental impacts are required to be referred to the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986*.

Under s81 of the *Planning and Development Act 2005*, schemes and amendments are referred to the EPA under s48A of *Environmental Protection Act 1986,* therefore environmental consideration and/or formal assessment precedes planning decision-making.

Where environmental impacts may be significant (such as impacts on native vegetation, wetlands or waterways), local governments are required to refer the proposal to the EPA under s38 of the *Environmental Protection Act 1986*. A proponent may also elect to refer a proposal to the EPA under s38.

(b) Environmental impacts for proposals that do not require assessment under Part IV of the *Environmental Protection Act 1986* may be subject to regulation under Part V of the *Environmental Protection Act 1986*, including the requirement for a works approval and licence. Prescribed premises are listed in Schedule 1 of the *Environmental Protection Regulations 1987*. Where proposals are not referred to the EPA under s48A or s38 of the *Environmental Protection Act 1986*, planning decision-making should precede environmental works approval and licensing. However, this can vary under certain circumstances.

The Department of Environmental Regulation's *Guidance Statement on Land Use Planning* (2015) outlines an implementation approach where environmental regulation and planning approval is required.

(c) Noise sensitive premises are defined in the *Environmental Protection (Noise) Regulations 1997*. The regulations define noise sensitive premises and outline allowable noise impacts on these areas. Under the regulations assigned noise levels for sensitive premises are informed by zonings in planning schemes. The definition is generally consistent with the definition of 'sensitive land uses' used in this policy.

(d) The clearing provisions of the *Environmental Protection Act 1986* require that the Chief Executive Officer has regard to planning instruments when making a decision on a clearing permit application. Planning instruments include State Planning Policies, planning schemes and local planning strategies. Clearing native vegetation is prohibited, unless undertaken with a clearing permit, or the clearing is for an exempt purpose. The first type of exemption is found in Schedule 6 of the *Environmental Protection Act 1986* and mainly refers to clearing that is required under other laws. The second type of exemption is found in the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* and mainly refers to clearing for routine low impact land management practices. Unless exempt, development applications may require a clearing permit.

(e) There are nineteen separate regulations that fall under the *Environmental Protection Act 1986*. These relate to matters such as abattoirs, abrasive blasting, rural landfill, packaged fertiliser and concrete batching. This policy does not duplicate these regulations, but provides a framework for planning decision-making that is cognisant of other regulatory requirements. As there is no regulation that specifically deals with odour, this policy provides direction on the matter.

(f) The Environmental Protection Authority's *Environmental Protection Guidance Statement No. 3: Separation Distances between Industrial and Sensitive Land Uses* provides guidance on recommended separation distances between many rural land uses and sensitive land uses. This guidance statement assists in the determination of land use buffers and planning decision-making.

(g) A range of rural land uses are not 'Prescribed Premises' under the *Environmental Protection Regulations 1987*, though they may still generate environmental impacts. This includes poultry farms, crushing and screening components of basic raw material extraction and composting under certain thresholds. These land uses and their impacts are regulated entirely by planning processes, and therefore require special consideration by planning decision-makers.[1]

(h) Schedule 2 of the *Health Act 1911* includes a list of 'Offensive Trades', including abattoirs, piggeries, rendering plants, tanneries and manure works. Part VII Division II of the Act requires local governments to approve and then register any offensive trades, and provides the ability for local governments to make local laws relevant to such trades. From a planning perspective, 'offensive' land use impacts can be managed by approvals issued by local governments under the *Health Act 1911*, in addition to planning controls. Registrations are renewed annually, and a local government may refuse to renew a registration if the premises are not operated in accordance with the relevant local laws. This provides an opportunity for local governments to manage and monitor the operation of 'offensive' premises.

(i) The Department of Health has *Guidelines for Separation of Agricultural and Residential Land Uses (2012)*, which seeks to minimise health and nuisance impacts from chemical use, spray drift and dust. Single residential dwellings located in land zoned Rural, Agricultural or equivalent in local and regional planning schemes are excluded from the guidelines. These guidelines articulate the Department of Health's position when providing advice on planning referral processes, where there are possible conflicts with existing agricultural land uses. In addition, the use of pesticides is regulated under the *Health (Pesticides) Regulations* (2011).

(j) Agencies and industry bodies may also produce guidelines and Codes of Practice to assist the industry in achieving well designed, located and managed rural activities and to reduce the potential for health, environment and nuisance related impacts on nearby land. Such guidelines may be an adjunct in the determination of land use buffers and planning decisions.

(k) The Department of Water seeks to conserve, protect, manage and assess water resources and provide for the sustainable use and development of water resources under the *Water Agencies (Powers) Act 1984*, *Rights in Water and Irrigation Act 1914* and *Waterways Conservation Act 1976*. Water resource availability is informed by allocation plans under the *Rights in Water and Irrigation Act 1914*, and is subject to allocation limits. The Department of Water's support for a plan or development would be influenced by whether or not water is available. If abstraction of the required water would result in significant environmental effects (such as impacts on native vegetation, wetlands or waterways), the Department of Water may need to refer the proposal to the Environmental Protection Authority under s38 of the *Environmental Protection Act 1986*.

Public drinking water source areas are defined by the Department of Water and proclaimed as water reserves, catchment areas or underground water pollution control areas under the *Metropolitan Water Supply, Sewerage and Drainage Act (1909)*, or water reserves or catchment areas under the *Country Areas Water Supply Act (1947)*. Land use and development in public drinking water source areas is guided by the WAPC's *State Planning Policy 2.7: Public Drinking Water Source Policy, State Planning Policy 2.2: Gnangara Groundwater Protection, State Planning Policy 2.3: Jandakot Groundwater Protection, and State Planning Policy: 2.9 Water Resources;* through sub-regional planning frameworks, region and local planning schemes.

(l) Documents prepared in relation to the Strategic Assessment of Perth and Peel under Part 10 of the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* are to be read in conjunction with this policy.

(m) Under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* approval is needed from the Commonwealth Minister for any proposal or action that has, will have or is likely to have a significant impact on any of the matters of environmental significance.

(n) *State Planning Policy 2: Environment and Natural Resources*, *State Planning Policy 2.1: Peel-Harvey Coast*

1 The *Biosecurity and Agriculture Management Act 2007* provides a basis for the *Biosecurity and Agriculture Management Plan (Stable Fly) Regulations 2013*. These apply in 13 urban and peri-urban local governments and may affect composting potential in those areas.

Plain Catchment, *State Planning Policy 2.7: Public Drinking Water Source Policy*; *State Planning Policy 2.9: Water Resources and State Planning Policy 2.10: Swan Canning River System* contain specific requirements for proposals within the catchment areas of estuaries, rivers, wetlands and other water bodies. These policies are to be read and applied in conjunction with this policy.

4 POLICY OBJECTIVES

The objectives of this policy are to:

(a) support existing, expanded and future primary production through the protection of rural land, particularly priority agricultural land and land required for animal premises and/or the production of food;

(b) provide investment security for existing, expanded and future primary production and promote economic growth and regional development on rural land for rural land uses;

(c) outside of the Perth and Peel planning regions, secure significant basic raw material resources and provide for their extraction;

(d) provide a planning framework that comprehensively considers rural land and land uses, and facilitates consistent and timely decision-making;

(e) avoid and minimise land use conflicts;

(f) promote sustainable settlement in, and adjacent to, existing urban areas; and

(g) protect and sustainably manage environmental, landscape and water resource assets.

5 POLICY MEASURES

The WAPC seeks to protect and preserve rural land for rural purposes including primary production, basic raw materials, regional facilities, and protection of biodiversity and landscape. Rural land accommodates a diverse range of land uses, primarily associated with primary production. There are also rural areas with suitable soils, climate, water (rain or irrigation) and access to services such that the land is considered to be high quality agricultural land. The intent of this policy is therefore to protect rural land and encourage a diversity of compatible rural land uses.

There is generally an existing supply of suitably sized and located rural lots to cater for intensive and emerging primary production land uses. Creation of new rural lots through ad hoc, unplanned subdivision is inconsistent with the objectives of this policy.

5.1 Protection of rural land and land uses

The WAPC will seek to protect rural land as a State resource by:

(a) requiring that land use change from rural to all other uses be planned and provided for in a planning strategy or scheme;

(b) retaining land identified as priority agricultural land in a planning strategy or scheme for that purpose;

(c) ensuring retention and protection of rural land for biodiversity protection, natural resource management and protection of valued landscapes and views;

(d) protecting land, resources and/or primary production activities through the State's land use planning framework;

(e) creating new rural lots only in accordance with the circumstances under which rural subdivision is intended in *Development Control Policy 3.4: Subdivision of rural land*;

(f) preventing the creation of new or smaller rural lots on an unplanned or ad-hoc basis, particularly for intensive or emerging primary production land uses;

(g) comprehensively planning for the introduction of sensitive land uses that may compromise existing, future and potential primary production on rural land; and

(h) accepting the impacts of well-managed primary production on rural amenity.

5.2 Rural land in the Perth and Peel planning regions

The Perth and Peel planning regions will continue to accommodate the majority of the State's population growth. Rural land will become more contested, as the land may be required for environmental protection, basic raw material extraction, infrastructure or urban purposes. Opportunities for additional rural living zoning will become more limited.

WAPC policy for rural land in the Perth and Peel planning regions is:

(a) rural residential proposals for rural land that do not align with endorsed sub-regional planning frameworks are considered inconsistent with the policy objectives and shall not be supported;

(b) rural smallholdings proposals for rural land will be considered by exception in planning strategies and schemes, where topography, biodiversity values,

bushfire risk, environmental matters and servicing can be managed in accordance with this and other State policies;

(c) established rural land uses of State significance, including animal premises and food processing facilities, should be protected from urban and rural living encroachment due to their critical food production and economic roles;

(d) priority agricultural land is to be preserved for that purpose due to its proximity to major population centres; and

(e) conversion of land from priority agriculture to other uses must be appropriately planned in strategies or schemes, where such conversion is required as a matter of State significance.

5.3 Rural living

The WAPC recognises there is a market for rural living development, and that it provides for a range of housing and lifestyle opportunities. However, rural living estates must be carefully planned, as they can be an inefficient means of accommodating people. Once rezoned, rural living estates consume and sterilise what was rural land, and may have unintended or adverse social, environmental, servicing or management impacts.

State Planning Policy 3 Urban Growth and Settlement provides strategic direction for settlement planning in Western Australia and specific guidance in relation to establishing rural living estates or areas where rural living is to be developed. For the purposes of this policy, a rural living proposal is:

- the designation of rural living precincts in a local planning strategy, scheme or structure plan; or
- an amendment to a strategy or scheme to provide for, or extend, a rural living precinct; or
- a subdivision application for land zoned for rural living purposes.

The following policy measures apply in regard to decision-making for rural living proposals:

(a) rural living proposals shall not be supported where they conflict with the objectives of this policy or do not meet the criteria listed at 5.3 (b) and (c);

(b) the rural living precinct must be part of a settlement hierarchy established in an endorsed planning strategy;

(c) the planning requirements for rural living precincts are that –

(i) the land be adjacent to, adjoining or close to existing urban areas with access to services, facilities and amenities;

(ii) the proposal will not conflict with the primary production of nearby land, or reduce its potential;

(iii) areas required for priority agricultural land are avoided;

(iv) the extent of proposed settlement is guided by existing land supply and take-up, dwelling commencements and population projections;

(v) areas required for urban uses are avoided;

(vi) water supply shall be as follows –

– where lots with an individual area of four hectares or less are proposed and a reticulated water supply of sufficient capacity is available in the locality, the precinct will be required to be serviced with reticulated potable water by a licensed service provider. Should an alternative to a licensed supply be proposed it must be demonstrated that a licensed supply is not available; or

– where a reticulated supply is demonstrated to not be available, or the individual lots are greater than four hectares, the WAPC may consider a fit-for-purpose domestic potable water supply, which includes water for fire fighting. The supply must be demonstrated, sustainable and consistent with the standards for water and health; or

– the development cannot proceed if an acceptable supply of potable water cannot be demonstrated;

(vii) electricity supply shall be as follows –

– where a network is available the precinct is to be serviced with electricity by a licensed service provider, or

– where a network is not available, the precinct is to be serviced by electricity from renewable energy source/s, by a licensed service provider, and this has been demonstrated;

(viii) the precinct has reasonable access to community facilities, particularly education, health and recreation;

(ix) the land is predominantly cleared of remnant vegetation, or the loss of remnant vegetation

through clearing for building envelopes, bushfire protection and fencing is minimal and environmental values are not compromised;

(x) the proposal demonstrates and will achieve improved environmental and landscape outcomes and a reduction in nutrient export in the context of the soil and total water management cycle, which may include rehabilitation as appropriate;

(xi) the land is capable of supporting the development of dwellings and associated infrastructure (including wastewater disposal and keeping of stock) and is not located in a floodway or an area prone to seasonal inundation;

(xii) the land is not subject to a separation distance or buffer from an adjoining land use, or if it is, that no sensitive land uses be permitted in the area of impact;

(xiii) the lots can be serviced by constructed road/s capable of providing access during all weather conditions, including access and egress for emergency purposes; and

(xiv) bushfire risk and natural hazards can be minimised and managed in accordance with State policy, without adversely affecting the natural environment. Proposals in areas of extreme bushfire risk will not be supported;

(d) development standards for rural living zones are to be included in local planning schemes;

(e) further subdivision of existing rural living lots into smaller parcels is not supported, unless provided for in a local planning strategy and/or scheme; and

(f) rural strata proposals with a residential component are considered to be rural living and will be considered in accordance with the criteria listed at clauses 5.3 (a), (b) and (c) of this policy.

Where there may be a conflict between endorsed planning strategies, the higher order and/or more recent document shall prevail.

5.4 Rural lots that may be created under the exceptional circumstances of *Development Control Policy 3.4: Subdivision of rural land*

Many rural lots in Western Australia were created prior to planning legislation and policy. Former townsites that are no longer settled may also have converted to rural zoning. As a result there is a vast array of rural lot sizes, including many small rural lots that are incapable of supporting primary production. Although these lots are small, and may be used primarily for residential purposes, they are not rural living lots as they are not identified or zoned as such, and they remain rural lots.

Development Control Policy 3.4: Subdivision of rural land outlines the range of exceptional circumstances where the WAPC will consider the subdivision of rural land, particularly where such subdivision may achieve land management, environmental, social or cultural benefit.

There is potential for rural subdivision to result in the creation of rural lots which are similar in size to lots in rural living zones, where residential use is the likely or intended long-term purpose. In such cases, WAPC policy is:

(a) the form of subdivision must be capable of approval under the exceptional circumstances and requirements of *Development Control Policy 3.4: Subdivision of rural land*;

(b) the resultant lot/s will not interfere with primary production, will have legal access to a constructed road and will achieve sound environmental outcomes; and

(c) the lot/s are not to be zoned for rural living.

5.5 Regional variation, economic opportunities and regional development

Western Australia is a large and diverse State with regional variations of climate, economic activity, cultural values, demographic characteristics and environmental conditions. The WAPC's decisions will be guided by the need to provide economic opportunities for rural communities and to protect the State's primary production and natural resource assets. WAPC policy is to:

(a) continue to promote rural zones in schemes as flexible zones that cater for a wide range of land uses that may support primary production, regional facilities, environmental protection and cultural pursuits;

(b) support small rural communities by providing for rural enterprise zones which combine light industry and housing, provided they are carefully planned; in general proximity to urban areas; serviced; and have design features that address buffers and amenity;

(c) support small scale tourism opportunities, such as bed and breakfast, holiday house, chalet, art gallery, micro-brewery and land uses associated with primary production, within the rural zone; and

(d) recognise the differing needs of the various regions, and consider regional variations where they meet the stated objectives of this policy and are supported in strategies and schemes.

5.6 Tree farming

Tree farming is an umbrella term used to describe the planting of trees to generate economic return and/or environmental benefits. It has been a rapidly emerging industry in a number of rural locations across the State. Usually this has involved the planting of trees for harvest. However, more recently the planting of trees for carbon sequestration has emerged as a new rural land use. Tree farming which involves harvesting is a primary production activity that also sequesters carbon. The different types of tree farms, i.e. integrated, chip logs or saw logs, require varied planning approaches.

WAPC policy in regard to tree farming is:

(a) tree farming is supported and encouraged on rural land as a means of diversifying rural economies and providing economic and environmental benefit;

(b) tree farming should generally not occur on priority agricultural land;

(c) tree farming should generally be a permitted use on rural land, except where development of a tree farm would create an extreme or unacceptable bushfire risk or when responding to specific local circumstances as identified in a strategy or scheme;

(d) local governments should manage the location, extent and application requirements for tree farming in their communities through local planning strategies, schemes and/or local planning policies;

(e) in planning for tree farming, local government considerations should include but are not limited to, potential bushfire risk, environmental and economic factors, water availability and recharge, visual landscape impacts, transport impacts of tree farming (where harvesting is proposed), planting thresholds, appropriate buffers, and location relative to conservation estates and sensitive land uses;

(f) where tree farm proposals are integrated with farm management for the purpose of natural resource management and occupy no more than 10 per cent of the farm, the proposal should not require local government development approval; and

(g) the establishment of tree farms does not warrant the creation of new or smaller rural lots.

5.7 Animal premises

Animal premises are important contributors to the food needs of Western Australia's residents and to the State's economy. In order to operate effectively they require ready access to consumers, access to services and freight, appropriate environmental or climatic conditions, and the ability to respond to changes in the market. As a result, animal premises are generally located in the vicinity of road, rail and port infrastructure and population centres. Relocation of existing animal premises away from approaching urban fronts will not be possible for all businesses, nor is it a reasonable expectation.

Many animal premises are subject to environmental regulation, but others, most notably poultry farms, are not. Where animal premises are not subject to environmental regulation, planning decision-makers may need to consider a broader range of environmental factors and resolve potential land use conflict.

WAPC policy in regard to animal premises is:

(a) animal premises are a rural land use, and are generally supported and encouraged on rural land provided rural amenity and environmental impacts can be effectively managed;

(b) animal premises that require large sites or buffers, and could limit existing or potential industrial land uses, should generally not be located in State strategic industrial areas or within their buffers;

(c) expansion of existing animal premises may be supported where off-site impacts (such as odour, dust or noise) are mitigated or managed to achieve maintenance or reduction of impacts, in accordance with an accepted code of practice;

(d) in addition to environmental issues, planning decision-makers must consider the following matters in assessing proposals –

  (i) the staging of the proposal and ultimate design capacity;

  (ii) the transport of animals to and from the site;

  (iii) the handling and disposal of deceased or 'retired' animals on or off-site;

  (iv) the transport, handling and/or disposal of animal feed and/or waste on or off-site;

  (v) outdoor pens or roaming areas for animals;

  (vi) the potential impacts of operating hours;

  (vii) shed configuration, including rotation and/or automation;

  (viii) servicing, including location and size of effluent disposal ponds; and

(ix) biosecurity (based on advice from the industry); and

(e) where an animal premises proposal may affect the nutrient load of a river, estuary or associated tributary and the system and/or its receiving water body has no further capacity to assimilate nutrients without an adverse impact on ecosystem health, a reduction in nutrient export is to be demonstrated.

5.8 Intensive agriculture

Intensive agricultural products are important contributors to the State's economy and are sold to domestic and export markets. Several localities in Western Australia produce much of the State's produce, including Carabooda, Gingin Brook, Perth Hills, Nowergup, Myalup, Manjimup, Donnybrook, Margaret River, Carnarvon, and Ord River. In addition, there are other dedicated sites that may produce a high percentage of a particular commodity in the context of State supply.

In order to operate effectively, producers may require areas of high agricultural productivity, water availability, suitable climatic conditions and ready access to markets and freight networks.

WAPC policy in regard to intensive agriculture is:

(a) intensive agriculture is generally supported and encouraged on rural land provided rural amenity and environmental impacts can be effectively managed;

(b) intensive agriculture sites of State significance should be protected from encroachment;

(c) in considering buffer distances between intensive agriculture and sensitive land uses, the requirements of clause 5.12 should be observed, and the following matters may also affect the buffer –

(i) types of chemicals used and their method of application;

(ii) the characteristics of the site/s, including vegetation, topography and prevailing winds;

(iii) potential mitigation approaches, including fencing, vegetation buffers, open space, road reserves and other compatible uses; and

(iv) potential staging and/or expansion intention of the intensive agriculture operator; and

(d) where an intensive agriculture proposal may affect the nutrient load of a river, estuary or associated tributary and the system and/or its receiving water body has no further capacity to assimilate nutrients without an adverse impact on ecosystem health, a reduction in nutrient export is to be demonstrated.

5.9 Basic raw materials outside the Perth and Peel planning regions

Basic raw materials are essential for the construction of buildings, roads and other infrastructure, and also for the sustainability of agricultural production.

Identification of basic raw material sites does not presume that extraction would be environmentally acceptable or that subsequent approval for extraction would be guaranteed. Nor does it remove the requirement of local government authorities or proponents to meet their obligations to identify those environmental constraints which may determine the extent and/or manner in which a proposal may be implemented.

WAPC policy for basic raw materials located outside the Perth and Peel planning regions is:

(a) Significant Geological Supplies and their buffers are not to be developed for other purposes until the resource is extracted, or unless development is compatible with the future extraction of the resource;

(b) Significant Geological Supplies and significant basic raw material resources, and an indicative separation distance or buffer, should be identified in sub-regional and/or local planning strategies;

(c) region and local planning schemes should identify Significant Geological Supplies and significant basic raw material resources, and include provisions for their protection, access and use;

(d) basic raw material resources and sites should be identified in local planning strategies and schemes as required;

(e) region and local planning schemes should not generally prohibit the extraction of basic raw material resources;

(f) sequential land use planning is encouraged whereby extraction and appropriate rehabilitation can take place on a programmed basis in advance of longer-term use and development;

(g) sensitive zones and/or land uses may be approved where it can be demonstrated they will not limit the existing or potential extraction of basic raw materials;

(h) where a basic raw material resource is located with native vegetation or significant biodiversity values, extraction of the resource may require referral under Part IV or Part V of the *Environmental Protection Act 1986*. Environmental regulation of the proposal may require vegetation retention and/or protection of other environmental assets;

(i) planning decision-makers are to have due regard to advice from environmental agencies and consider potential impacts on fragmentation and connectivity of remnant vegetation; and

(j) where a basic raw material resource is located in a public drinking water source area, extraction of the resource may be subject to achieving separation distances to the groundwater table to protect water quality. Separation distances from water supply infrastructure, and other management measures to protect water quality, should be applied in planning decision-making.

5.10 Managing and improving environmental and landscape attributes

The planning system is well-placed to address environmental and landscape values when land use change is contemplated, to ensure that negative impact from development is minimised.

Environmental and landscape attributes will be managed and improved by:

(a) supporting and promoting private conservation areas within Western Australia in addition to State and local government conservation reserves;

(b) supporting the establishment of environmental corridors in strategies and schemes, including connection of State and local reserves and waterways and wetlands within private conservation areas;

(c) considering future ownership and management arrangements prior to the zoning of land for conservation purposes;

(d) supporting rural living proposals with a conservation theme that result in improved environmental outcomes, where that land is identified as suitable for future rural living subdivision in a strategy or scheme, in accordance with the policy requirements of clauses 5.2 and 5.3;

(e) supporting the inclusion into strategies and schemes of provisions that promote protection of valued landscape and views, as required; and

(f) making planning decisions that support the protection of water resources and their dependent environments in order to maintain or improve water quality.

5.11 Regional facilities

Some rural land may be suitable to accommodate facilities that serve a regional or sub-regional catchment. This could include regional attractors or facilities such as sporting or entertainment venues, places of worship, prisons, cemeteries and waste facilities.

As these land uses serve a regional or sub-regional function, the WAPC recommends that sites for regional facilities be subject to scheme amendment processes to allow for early environmental referral and public advertising.

Where amendments are proposed, or in situations where a development application is lodged, the following requirements apply:

(a) facilities should be located on a main road or on a road that is of a suitable standard and treatment, to accommodate significant increase in traffic volumes and freight tasks which may be generated by the proposal;

(b) facilities should contain or satisfactorily manage potential environmental (including water resources), noise, amenity and air quality impacts on the landholding without affecting nearby rural land uses;

(c) facilities should not be visually dominant within key viewsheds, and should be visually compatible with surrounding land uses and development; and

(d) facilities should be provided with essential services commensurate with the intended land use.

5.12 Preventing and managing impacts in land use planning

One of the key elements in achieving the objectives of this policy is ensuring that zones and sites are suitable for their intended purpose. As a result, at each stage of the planning framework, planning decision-makers need to consider the broad suitability of land uses and the ability to manage offsite impacts prior to determining whether the use of a buffer is necessary.

5.12.1 Avoiding land use conflict

Planning decision-makers shall take the following approach to avoid land use conflict:

(a) where an existing land use that may generate impacts is broadly compatible with surrounding zones and land uses, a separation distance should be indicated in a local planning strategy so there is broad awareness of the land use;

(b) where a development is proposed for a land use that may generate off-site impacts, there should be application of the separation distances used in environmental policy and health guidance,

prescribed standards, accepted industry standards and/or Codes of Practice, followed by considering –

(i) whether the site is capable of accommodating the land use; and/or

(ii) whether surrounding rural land is suitable, and can be used to meet the separation distances between the nearest sensitive land use and/or zone, and would not limit future rural land uses; and

(iii) whether if clauses (i) and/or (ii) are met, a statutory buffer is not required;

(c) where a development is proposed for a land use that may generate off-site impacts and does not meet the standard outlined in clause 5.12.1 (b) then more detailed consideration of off-site impacts will be required, in accordance with clause 5.12.3 of this policy; and

(d) where a development is proposed that could be contemplated in the zone, and has been assessed under clause 5.12.3 as having unacceptable off-site impacts that cannot be further mitigated or managed, the proposal should be refused.

5.12.2 Planning approach for sensitive land uses in rural zones potentially affected by a rural land use

This policy seeks to limit the introduction of sensitive land uses that may compromise existing and future primary production on rural land. In considering these zones and land uses, WAPC's position is that:

(a) single dwellings on rural land are a sensitive land use;

(b) single dwellings and other sensitive land uses on rural land should be afforded a reasonable standard of rural amenity;

(c) the introduction of single dwellings and other sensitive land uses should not occur where they would limit primary production;

(d) the extent of a sensitive land use on rural land is a distance (as opposed to the property boundary) from the perimeter of the use that provides a reasonable standard of rural amenity;

(e) where primary production sites require caretakers' dwellings for management or operational purposes, these dwellings should not be considered a sensitive land use, noting that occupational health and workplace safety requirements will apply;

(f) rural land uses are compatible with the preservation of rural character and amenity in rural zones;

(g) where single dwellings or other sensitive land uses are proposed in an area potentially impacted by a primary production site of State significance, prospective purchasers may be advised of potential impacts by notifications on title at subdivision stage.

5.12.3 Determining a buffer

In addition to those matters required under a scheme, where detailed consideration of off-site impacts is required in accordance with clause 5.12.1 (c), determination of a buffer should, take into account:

(a) separation distances recommended in Government policy and guidance;

(b) whether the design and/or operation of the proposal is in accordance with prescribed standards, accepted industry standards or codes of practice;

(c) whether, prior to issuing an approval, any management plans associated with the proposal are capable of being implemented;

(d) the existing or potential requirement for environmental licensing and/or works approval;

(e) potential cumulative impacts;

(f) whether modelling is required where impacts on sensitive land uses outside the property boundary are anticipated to exceed the parameters used in environmental policy, prescribed standards, accepted industry standards and/or codes of practice; and

(g) odour modelling, when required, is to be undertaken in accordance with a methodology outlined in Government policy or guideline, or an agreed equivalent, by the proponent of the primary production or the proponent of the sensitive zone or land use.

5.12.4 Planning approach for buffers

Where a buffer has been determined in accordance with clause 5.12.3 and off-site impacts can be managed by planning controls, planning decision-makers should adopt the following approach as applicable:

(a) for a scheme review or amendment, generally a statutory buffer should be applied and take the form of a special control area with related scheme provisions;

(b) for a structure plan, designate buffers, noting that their effect is one of 'due regard';

(c) for a subdivision, include a condition that notifies prospective purchasers of either a statutory buffer, or a land use that may affect residential amenity; and

(d) for a development application, the requirements of clause 5.12.1 (b) must be satisfied, as it is not possible to implement a statutory buffer through a development application. Where clause 5.12.1 (b) cannot be satisfied, a scheme amendment may be required.

Where the right to construct a single dwelling on rural land exists in a scheme, it cannot be extinguished over the entire site by a statutory buffer.

5.12.5 Planning approach for managing land use transition

Rural land may transition to other zones, such as urban, residential, commercial and industrial. In such cases, it is necessary for land use transition to be managed, such that existing operators can continue to function and new landowners have reasonable expectations. In such cases, WAPC policy is:

(a) where an area is transitioning from a rural zoning to urban, buffers may be required during the transition, to manage the change and allow producers to continue operations until such time as production ceases or relocation occurs;

(b) where an area is transitioning from a rural zoning and the producers plan to relocate before rezoning, structure planning or subdivision occur, proponents are to provide evidence of the intended closure, such as a statutory declaration, written undertaking by the producer, unconditional offer and acceptance for the sale of the property, or removal of the agricultural infrastructure. In these circumstances a buffer need not be applied;

(c) prospective purchasers of properties affected by a buffer may be advised of the existence of a rural land use through a condition of subdivision; and

(d) in accordance with clause 5.2 (c) of this policy, rural land uses of State significance are to be given due regard in decision-making.

6 IMPLEMENTATION

This policy is given effect by the *Planning and Development Act 2005*. The appropriate planning instruments to protect rural land and land uses are State and regional strategies, region schemes, local planning strategies, local planning schemes, local planning policies, structure plans, subdivision and development applications.

As a general principle, rural land and land uses should be considered at each stage of the planning framework, increasing in detail at each level.

6.1 Regional strategic planning for rural land

Regional planning strategies should identify:

(a) primary production sites that service the region or beyond;

(b) priority agricultural land;

(c) the location of Significant Geological Supplies;

(d) areas of known and important mineral and petroleum resources;

(e) regionally significant biodiversity, landscape and environmental assets, including water resources; and

(f) key regional transport routes for transporting agricultural products, basic raw materials, mineral products and other resources.

6.2 Sub-regional and local strategic planning for rural land

Sub-regional and local planning strategies should:

(a) provide more detailed consideration and guidance in relation to the matters listed at 6.1 of this policy;

(b) only identify land for rural living zones in accordance with *State Planning Policy 3: Urban Growth and Settlement* and clauses 5.2 and 5.3 of this policy;

(c) only identify rural land for conversion to other land uses when consistent with the objectives of this policy;

(d) indicate separation distances and/or buffers for land uses where necessary; and

(e) provide soil and land capability information regarding the risk of nutrient export where land uses may generate increased nutrient loads in rivers, estuaries or their tributaries.

6.3 Rural land in local planning schemes

When local planning schemes are prepared or reviewed, planning decision-makers shall:

(a) provide more detailed consideration and guidance to respond to the matters listed at clauses 6.1 and 6.2 of this policy;

(b) in rural zones, limit the introduction of land uses that may constrain existing or potential future rural land uses;

(c) only categorise land uses as permissible in rural zones if they are consistent with the objectives of this policy and a local planning strategy;

(d) generally designate animal premises as 'permitted' or 'discretionary' uses; and

(e) consider whether sensitive land uses in rural zones serve a secondary function to the purpose of the land for primary production, environment and landscape, and whether they should not be 'permitted' uses in planning schemes.

6.3.1 Use of the terms 'noxious' and 'hazardous' in schemes

A number of schemes describe some land uses as 'noxious' and 'hazardous', based on definitions from environmental and health legislation. When used out of context in planning schemes, these terms imply that, when developed, the land uses will be noxious and hazardous. However, environmental, health and planning controls may have the combined effect of managing impacts to acceptable levels.

WAPC policy is that:

(a) the terms 'noxious' and 'hazardous' should not be used in region and local planning schemes;

(b) the terms 'noxious' and 'hazardous' should be removed from schemes when they are reviewed and be replaced by definitions that more accurately describe the land use;

(c) applications for animal premises should not be assessed as 'noxious' or 'hazardous' industries in the land use zoning table; and

(d) where these terms occur in existing schemes, and no other land uses could reasonably be applied to a proposal, the land use should be dealt with as a 'use not listed' and assessed under the zone objectives.

6.4 Zoning proposals affecting rural land

In contemplating zoning proposals or amendments to region or local planning schemes, planning decision-makers shall consider:

(a) the suitability of the site to be developed for the proposed use;

(b) the siting of the zone/land use in the context of surrounding zones/land uses (existing and proposed);

(c) the capacity of the site to accommodate the proposed zone/land use and associated impacts and:

  (i) only support proposals which are consistent with endorsed planning strategies, or in exceptional circumstances, where the proposal meets the objectives and intent of WAPC policy;

  (ii) only support the introduction of sensitive zones that may affect the existing and future operation of primary production where the management of impacts and/or mitigation approaches have been substantively resolved and are not wholly deferred to later stages of planning;

  (iii) that the continuation of existing rural land uses are taken into account;

  (iv) ensure that lifting of urban deferred land in a region scheme is in accordance with clause 6.4 (b);

  (v) ensure that the sensitive zone does not overlap with any buffer determined to be necessary as a result of introducing the new zone, and the area within the buffer should retain its rural zoning until such time as the buffer is no longer required; and

  (vi) ensure that adequate land is identified to contain impacts from existing primary production, before introducing sensitive or industrial zones on rural land.

6.5 Subdivision

It is the view of the WAPC that there are sufficient, suitably sized and located rural lots to cater for intensive and emerging primary production land uses. Creation of new rural lots through ad-hoc, unplanned subdivision will not be permitted.

In contemplating subdivision proposals on rural land, WAPC policy is:

(a) the creation of new or smaller rural lots will be by exception and in accordance with *Development Control Policy 3.4: Subdivision of rural land*;

(b) the creation of new or smaller rural lots by exception may be provided for in other State Planning Policies and/or a local planning strategy or scheme;

(c) no other planning instruments besides those listed at (a) or (b) can provide for the subdivision of rural land; and

(d) the introduction of new dwelling entitlements or other sensitive land uses should not limit or prevent primary production from occurring.

6.5.1 Servicing conditions

Electricity

For rural and rural living subdivisions, WAPC policy is for electricity supply to be commensurate with the intended land use.

The policy measures are:

(a) subdivisions involving housing, particularly in a rural residential zone, will generally require a network electricity supply;

(b) where lots created as a result of a subdivision for a homestead lot, a conservation lot or boundary realignment do not require a power connection to support the land use, an electricity supply condition may not be applied;

(c) where an existing power connection to a lot is confirmed as meeting safety requirements, an electricity supply condition may not be applied, or may be cleared;

(d) where connection to a network electricity supply requires an infrastructure upgrade that is not commensurate with the scale of the proposal, the WAPC may not impose, or may clear, a condition of subdivision requiring an electricity supply, provided that:

  (i) a notification is placed on title advising that an electricity supply is not supplied to the lot/s; or

  (ii) the subdivider voluntarily places a notification on title advising that an electricity supply is not supplied to the lot/s; and

  (iii) it is demonstrated that the lot can be serviced by renewable energy source/s;

(e) where a proposal would intensify development, and there is existing electricity supply infrastructure that traverses the lots/s, the WAPC may require removal or relocation of infrastructure.

Wastewater disposal

For rural and rural living subdivisions, WAPC policy is:

(a) on-site wastewater disposal is generally acceptable, subject to the appropriate separation from buildings, watercourses, water bodies and/or drinking water sources being demonstrated.

Water supply

The policy provisions relevant to water supply for rural living proposals are outlined in clause 5.3 of this policy.

For rural subdivisions, WAPC policy is:

(a) where subdivision of rural land occurs in accordance with this policy, a notification may be placed on title where a licensed water supply is not available; and

(b) a proposed lot may rely on a Service by Agreement supply or rainwater.

6.6 Development

Section 67 of the *Planning and Development (Local Planning Schemes) Regulations 2015* outlines the range of matters to be considered by local governments in determining applications for development approval.

6.7 Local planning policies

Local governments may prepare local planning policies to supplement or elaborate on issues associated with this policy. The scope and effect of local planning policies is outlined in the *Planning and Development (Local Planning Schemes) Regulations 2015*.

6.8 Rural Planning Guidelines

The WAPC's Rural Planning Guidelines provide guidance and further detail for implementing this policy.

GLOSSARY OF TERMS

The terms used in this policy are defined in this section. Some are sourced from the *Planning and Development (Local Planning Schemes) Regulations 2015*. Definitions contained in this policy also apply to *Development Control Policy 3.4: Subdivision of rural land*.

Term	Definition
Abattoir	As per the *Planning and Development (Local Planning Schemes) Regulations 2015*.
Agriculture – extensive	As per the *Planning and Development (Local Planning Schemes) Regulations 2015*.
Agriculture – intensive	As per the *Planning and Development (Local Planning Schemes) Regulations 2015*.
Agricultural land use / agricultural purposes	A subset of rural land used specifically for agricultural purposes including agriculture – extensive, agriculture – intensive, pastoral uses, plantations and agro forestry. May include industry – primary production. Does not include rural living.
Alternative servicing	Provision of services including drinking water, power and sewage disposal by a householder or other body, as opposed to a licensed provider.
Alternative water supply	Water supplied by means other than a licensed water service provider (such as the Water Corporation). Includes potable water for domestic use (where it is approved by the Department of Health) and either potable or non-potable water for fire fighting, including the maintenance of fire retardant vegetation and gardens.
Animal establishment	As per the *Planning and Development (Local Planning Schemes) Regulations 2015*.
Animal husbandry – intensive	As per the *Planning and Development (Local Planning Schemes) Regulations 2015*.
Animal premises	An umbrella term which covers the following rural land uses: abattoirs, animal husbandry – intensive (including poultry farms and piggeries), rendering plants and sale yards. Does not include animal establishments, catteries or kennels.
Basic raw materials	Sand (including silica sand), clay, hard rock, limestone (including metallurgical limestone), agricultural lime, gravel, gypsum and other construction and road building materials. The materials may be of State, regional or local significance depending on the resource location, size, relative scarcity, value and demand for the product.
Buffer	The strategic or statutory designation of land in which sensitive land uses are constrained or prohibited. The extent of a buffer comprises the following elements: • the type and scale of the proposal • Government policy on separation distance • existing or potential requirement for environmental licensing and/or works approval • industry-specific guidelines • technical studies • potential cumulative impacts • amenity, visual impact • environmental and topographic features • cadastre • the continuation and/or expansion of the land use in the context of surrounding land uses. A buffer is measured from activity to activity, and does not necessarily relate to cadastral boundaries. A strategic buffer is one shown in a local planning strategy or other strategic planning document. A statutory buffer is one shown in a region or local planning scheme where there are land use planning controls that give effect to the buffer.
Carbon sequestration	Capture and storage of carbon in a manner that prevents it from being released into the atmosphere. Often occurs through tree planting.
Code of practice	Written guidelines issued by an official body or a professional association to its members to express the preferred operating standards for the business.

Term	Definition
Conservation estate	Land with significant conservation values, reserved (or proposed to be reserved) under the National Reserve System or through the *Conservation and Land Management Act 1984*.
Environmental corridors	A network of native vegetation that maintains some of the ecological functions of natural areas and counters the effects of habitat fragmentation (adapted from the Environmental Protection Authority's Guidance Statement No. 33).
High-quality agricultural land	Land that is identified in a dataset generated by the agency responsible for agriculture and food, based on land capability, water and climate.
Hobby farm	See Rural Pursuit.
Identified biodiversity values	A formal indication that the biodiversity values of a site are such that the site should be subject to some form of protection. This could include, but is not limited to, a matter of significance under the *Environmental Protection and Biodiversity Conservation Act 1999*, a policy or advice from the Environmental Protection Authority or other environmental agency, and a local biodiversity strategy.
Industry – extractive	As per the *Planning and Development (Local Planning Schemes) Regulations 2015*.
Industry – primary production	As per the *Planning and Development (Local Planning Schemes) Regulations 2015*.
Landscape or bushland protection zone	A land use zone with conservation as the predominant land use. May be a subset of rural living characterised by clustering of residential development/land use on a land parcel(s) containing areas of high environmental and/or landscape value. Also refers to zones including bushland conservation, rural landscape, and rural conservation.
Licensed service provider	A provider of services such as electricity, water or wastewater disposal, licensed by the Economic Regulation Authority in accordance with the licensing schemes set out in the *Electricity Industry Act 2004, Energy Coordination Act 1994* and the *Water Services Act 2012*.

Term	Definition
Local planning strategy	A strategy prepared under the *Planning and Development (Local Planning Schemes) Regulations 2015* Part 3, as amended from time to time, which sets out the long-term planning directions for a local government, applies State and regional planning policies, and provides the rationale for the zones and other provisions of the local planning scheme.
Locally significant	A land use, area or issue that is of significance to a local government, district or townsite by virtue of any or all of the economic, social, cultural or environmental values for that land use, area or issue.
Main road	A road that provides for major regional and inter-regional traffic movement and carries large volumes of generally fast moving traffic.
Natural resources	Resources supplied by nature. These are commonly classified into non-renewable resources, such as minerals and petroleum, and renewable natural resources that propagate or sustain life and are naturally self-renewing when properly managed, including plants and animals as well as soil and water.
Off-site impacts	Impacts such as odour, noise, spray drift, vibration, dust, groundwater, air pollution or light spill that cannot be contained within a property boundary. These are impacts which remain after mitigation and management to regulatory and/or policy standards.
Pastoral land and purposes	As per part 7 of the *Land Administration Act 1997*.
Peri-urban	A general term used to describe land on the outskirts of a major urban area or capital city e.g. Perth, Geraldton, Northam, Kalgoorlie, Bunbury, Albany. Peri-urban land located between the suburbs and the countryside. Combination of the words peripheral and urban. Refers to a general location and is not a land use.
Piggery	A subset of animal premises relating to any land or buildings used for the rearing or keeping of pigs.
Poultry farm	A subset of animal premises relating to any land or buildings used for the rearing or keeping of poultry for either egg or meat production.

Term	Definition
Primary production	The carrying out of a business that: cultivates or propagates plants; maintains animals; takes or cultivates aquatic organisms, extracts basic raw materials, and plants, tends, fells and/or transports trees or parts thereof for sale or remuneration. It includes intensive and extensive agriculture, animal husbandry – intensive, animal premises, industry – extractive, tree farms and plantations.
Priority agricultural land	Land of State, regional or local significance for food production purposes due to its comparative advantage in terms of soils, climate, water (rain or irrigation) and access to services. Priority agricultural land is derived from High Quality Agricultural Land data that has been subject to consultation and refinement, and has removed land required for existing and future urban/development areas, public use areas and land required for environmental purposes.
Private conservation areas	Areas with significant conservation value that may be identified in a strategy or scheme and/or zoned for conservation purposes, and are in private ownership.
Reasonable standard	The degree of reasonableness as outlined in the *Associated Provincial Picture Houses Ltd v Wednesbury Corporation (1947) 2 All ER 6802* decision and used to determine if a condition should not be imposed because it is so unreasonable that no reasonable body or persons could have made the decision.
Regional	Pertaining of, or to, a planning region as defined in the *Planning and Development Act 2005*.
Regional facilities	Land uses that serve a regional or sub-regional function, with a wide geographic catchment, and which may be suitable in rural areas and/or zones. Includes land uses such as landfills, cemeteries, prisons and places of worship, but does not include public utility infrastructure.
Regional or sub-regional planning strategy	A land use planning strategy, framework or structure plan, usually prepared by the Western Australian Planning Commission, which sets strategic direction over a planning region, sub-region, townsite or suburb. May include a spatial plan that provides a basis for future zoning.
Regionally significant	A land use, area or issue of significance to a planning region by virtue of any or all of the economic, social, cultural or environmental values for that land use, area or issue.

Term	Definition
Remnant vegetation	Vegetation which is either a remainder of the natural vegetation of the land that was present prior to European settlement, or, if altered, is still representative of the structure and floristics of the natural vegetation, and provides the necessary habitat for native species.
Renewable energy source	Any source of energy that can be used without depleting its reserves. This can include: • solar • wind • bioenergy, such as wood, agricultural crops and residues, animal wastes, and municipal solid (green) waste • hydropower • geothermal and hot dry rock • tidal and wave • alternative fuels such as ethanol and biodiesel
Rural amenity	A standard of residential amenity that is rural in nature, which may include impacts from primary production. May also include biodiversity conservation, natural resource management, some public purposes and protection of landscapes and views.
Rural enterprise zone	A predominantly light industrial zone, generally suitable in rural areas, that provides for light industrial land uses and an ancillary residential dwelling on one lot, with lot sizes in the order of one to four hectares. May also be known as rural industry or composite zones.
Rural home business	As per the *Planning and Development (Local Planning Schemes) Regulations 2015*.
Rural land	Land zoned or identified for agricultural or rural use in a region or local planning scheme or strategy.
Rural land use	Land uses that are rural in nature and that support and are associated with primary production, basic raw material extraction, biodiversity conservation, natural resource management, public purposes (eg. prisons, cemeteries, public utilities and waste management facilities) and protection of landscapes and views. Does not include rural living (see clause 5.3 of this policy).

Term	Definition
Rural living	An umbrella term used to describe a range of zones that provide for low density residential uses in an estate or precinct, generally characterised by a grouping of lots in the order of one to 40 hectares. Rural living zones include those named rural living, rural retreat, rural residential, special rural, rural smallholdings, rural conservation and landscape protection. Although primary production land uses may occur within some rural living zones, they must be incidental to and compatible with the primary rural living intent and purpose of the zone.
Rural pursuit/hobby farm	As per the *Planning and Development (Local Planning Schemes) Regulations 2015*.
Rural residential zone	A subset of rural living and a land use zone with land parcels from one to four hectares in size and generally provided with scheme water and reticulated power supply. May also be known as special rural.
Rural smallholdings zone	A subset of rural living, except where otherwise identified in a WAPC endorsed strategy or scheme. A land use zone with land parcels from four to 40 hectares in size. May also be known as rural retreat.
Rural strata	The subdivision of rural land into a number of residential strata lots, with the balance of the land being retained for primary production. The balance of the land is generally owned and operated by the owners of the residential lots.
Sensitive land use	Land uses that are residential or institutional in nature, where people live or regularly spend extended periods of time. These include dwellings, short-stay accommodation, schools, hospitals and childcare centres. Generally excludes commercial or industrial premises.
Sensitive zone	An umbrella term that covers land use zones that specifically provide for development of sensitive land uses. These include urban, urban development, residential, rural living and community purpose zones, and proposals for the lifting of urban deferment.
Separation distance	As defined in Government environmental policy, a separation distance is a recommended distance necessary to separate a source of emissions (gaseous and particulate emissions, dust, odour and noise) from sensitive land uses in order to avoid impacts to human health and amenity. A separation distance is an important consideration in determining a buffer.

Term	Definition
Settlement hierarchy	The designation of land for existing or future settlement, with an intended role and/or functional hierarchy.
Significant Geological Supplies	Basic raw materials identified by the Department of Mines and Petroleum as having State significance due to the size of the resource, relative scarcity, demand and/or location near growth areas and transport routes.
Special residential zone	A residential land use zone with land parcels from 2,000m^2 to one hectare in size.
State significance	A land use, area or issue that is considered by the State to be of significance to the State of Western Australia by virtue of any or all of the economic, social, cultural or environmental values for that land use, area or issue.
State strategic industrial areas	Areas zoned or planned for strategic industry, identified by the agency responsible for State Development.
Strategy or scheme	A general term used to capture a range of documents that guide or direct planning decision-making. Specifically, it refers to: • an endorsed regional planning and infrastructure framework • an endorsed sub-regional framework or plan • an endorsed local planning strategy • an endorsed regional planning scheme • an endorsed local planning scheme • any other relevant document endorsed by the Western Australian Planning Commission or Minister for Planning
Tree farm – chip logs	Land used for commercial tree production, generally on a smaller scale, where it is intended that the trees are to be harvested to produce wood chips or wood pulp.
Tree farm – saw logs	Land used for commercial tree production, generally on a smaller scale, where it is intended that the trees are to be harvested to produce higher quality sawn timber or veneers, such as for furniture or the construction industry.
Tree farm – integrated	Tree farm proposals that are small in scale, integrated into existing farming operations, and generally for natural resource management purposes.

Term	Definition
Tree farm – carbon sequestration	Land used for the capture and storage of carbon in a manner that prevents it from being released into the atmosphere. Regulated in Western Australia by the *Carbon Rights Act 2003*.
Urban uses	A general term used to describe the zones and reserves that are typically found in an urban locality or townsite, such as residential, commercial, industrial and public purposes.
WAPC endorsed	A document endorsed, approved or adopted by the Western Australian Planning Commission.
Water resources	Watercourses and wetlands together with their beds and banks; other surface water; and aquifers and groundwater.
Zone	As per the *Planning and Development (Local Planning Schemes) Regulations 2015*. For the purposes of this policy it also includes reserves.

Annexure SGA17

GBRS Strategic Minerals & Basic Raw Materials Reserve Policy







Department of **Planning, Lands and Heritage**

GOVERNMENT OF WESTERN AUSTRALIA

Western Australian Planning Commission

Greater Bunbury Region Scheme

Strategic Minerals and Basic Raw Materials Resource Policy 2018

October 2018



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1. Introduction

1.1 Minerals and basic raw materials are important commodities for the Western Australian economy. Mining is a key economic driver in the State. It is a major source of employment and has a significant flow-on effect to other sectors of the economy, particularly manufacturing and resource processing. Basic raw materials are essential products for local construction, road building and agriculture.

1.2 The *State Planning Strategy* (WAPC, 2014) recommends conserving mineral resources and basic raw materials to ensure these resources are used optimally for their highest purpose. This includes the preparation of appropriate policies to manage future and existing supplies over the long term.

1.3 This policy also has regard to the principles of *State Planning Policy 2.5: Rural Planning* which sets out matters to be considered by the Western Australian Planning Commission (WAPC) and local governments outside of the Perth and Peel planning regions for zoning, subdivision and development applications for extractive industries, and in the vicinity of identified basic raw material resource areas.

1.4 The principal purpose of this policy is to ensure long-term security of access for minerals and basic raw materials through appropriate land use planning and control of development.

1.5 Identification of strategic resources does not presume that extraction would be environmentally acceptable or that subsequent approval for extraction would be guaranteed. Nor does it remove the requirement of local government authorities or proponents to meet their obligations to identify those environmental constraints that may determine the extent and/or manner in which a proposal may be implemented.

1.6 This policy identifies strategic mineral resources and basic raw materials Significant Geological Supplies (SGS) in the Greater Bunbury Region Scheme (GBRS) area; and responds to calls from the community, industry and government to:

- facilitate the timely extraction of resources
- ensure present and future extraction of basic raw materials and mineral resources are not prejudiced
- minimise the impact of extraction on surrounding land uses.

2. Background

2.1 The **Policy area** as shown in ***Figure 1*** includes strategic resource areas and their buffers.

2.2 **Strategic resources** consist of basic raw materials Significant Geological Supplies and mineral resources which have been identified by the Geological Survey of Western Australia — a division of the Department of Mines, Industry Regulation and Safety.

Basic raw materials means sand (including silica sand), clay, hard rock, limestone (including metallurgical limestone), agricultural lime, gravel, gypsum and other construction and road building materials. The materials may be of State, regional or local significance depending on the resource location, size, relative scarcity, value and demand for the product.

Minerals has the same meaning given to the term in the *Mining Act 1978*.

Significant geological supplies means basic raw materials identified by Department of Mines, Industry Regulation and Safety as having State significance due to the size of the resources, relative scarcity, demand and/or location near growth areas and transport routes.

Buffer areas refers to land adjacent to and surrounding the strategic resource areas as shown in ***Figure 1***.

2.3 This policy should be read in conjunction with:

- the Memorandum of Understanding, dated September 1998, regarding the consultation arrangements between the WAPC, the Department of Planning, Lands and Heritage and the Department of Mines, Industry Regulation and Safety
- *State Planning Policy 2.5: Rural Planning*
- *State Planning Policy 4.1: State Industrial Buffer Policy*
- the *Greater Bunbury Region Scheme Priority Agricultural Land Policy 2017*.

3. Application

3.1 This policy applies to land within the policy areas as shown in ***Figure 1***.

4. Objectives

4.1 To identify land within the GBRS area that contains mineral resources and basic raw materials of State or regional significance.

4.2 To prevent strategic resources of State or regional significance being sterilised from incompatible development and land uses.

4.3 To encourage the mining of strategic resources in accordance with acceptable environmental standards.

4.4 To promote the rehabilitation and restoration of mining and extraction sites after works have been completed, in a manner consistent with the long-term use of the land.

5. Policy statement

5.1 Strategic resources and their buffers are not to be developed for other purposes until the resource is extracted, or unless development is compatible with the future extraction of the resource.

5.2 The WAPC will give due regard to this policy when considering amendments to the GBRS and local planning schemes and amendments, and in determining subdivision and development applications.

5.3 Local governments should give due regard to this policy when preparing local planning schemes and amendments, and in making decisions about the use or development of land within the policy areas.

5.4 Strategic resources, and an indicative separation distance or buffer should be identified in sub-regional and/or local planning strategies.

5.5 Region and local planning schemes should identify strategic resources, and include provisions for their protection, access and use.

5.6 Region and local planning schemes should not generally prohibit the extraction of strategic resources.

5.7 Sequential land use planning is encouraged whereby extraction and appropriate rehabilitation can take place on a programmed basis in advance of longer term use and development.

5.8 Sensitive zones and/or land uses may be approved where it can be demonstrated they will not limit the existing or potential extraction of strategic resources.

5.9 Consideration may be given to approving rezoning, subdivision or development within the policy areas where, following detailed investigations and consultations with the Department of Mines, Industry Regulation

and Safety, the Department of Water and Environment Regulation and the Department of Planning, Lands and Heritage, it can be demonstrated that the proposed rezoning, subdivision or development would not prejudice current or future mining of strategic resources within the areas. The acceptability of any proposed rezoning, subdivision or development within the policy areas will be determined with due regard to:

- advice from the Department of Mines, Industry Regulation and Safety on matters referred to in this policy
- any other planning or environmental considerations, including WAPC policies and local government policies adopted under their local planning scheme.

5.10 Where a strategic resource is located with native vegetation or significant biodiversity values, extraction of the resource may require referral under Part IV or Part V of the *Environmental Protection Act 1986*. Environmental regulation of the proposal may require vegetation retention and/or protection of other environmental assets.

5.11 Planning decision-makers are to give due regard to advice from environmental agencies and consider potential impacts on fragmentation and connectivity of remnant vegetation.

5.12 For basic raw materials, the horizontal separation distances from water supply infrastructure, and other management measures to protect water quality, should be applied in planning decision-making.

5.13 Extraction of basic raw materials will normally be subject to achieving vertical separation distances to the groundwater table to protect water quality. The separation distance will vary based on the value of the groundwater resource (for example, public drinking water source areas).

5.14 Rehabilitation and restoration of basic raw material extraction sites will normally ensure that an appropriate vertical separation distance to groundwater is achieved. The distance needs to be consistent with the long-term use of the land and protection of the groundwater quality.

6. Buffer areas

6.1 Sensitive uses, such as residential and rural residential uses should be separated from mining and extractive industries by buffers, to protect people from the likely adverse effects of truck traffic, noise, blasting, dust, vibration and light spill.

In determining the acceptability of any proposed use or development within the buffer areas, in addition to any advice from the Department of Mines, Industry Regulation and Safety, due regard should be given to the following matters:

(i) the objectives, principles and criteria of *State Planning Policy: 4.1 State Industrial Buffers*

(ii) recommended buffers between particular extractive and mining operations and other land uses contained in relevant scientifically-based studies

(iii) environmentally acceptable standards for noise, dust and light spill (for example, noise limits required under the *Environmental Protection (Noise) Regulations 1997*)[1]

(iv) the ability of a mining or extractive industry operator to achieve and adhere to performance standards and best practice management for the mining industry, that apply to buffer requirements

(v) current or proposed mechanisms to ameliorate off-site impacts (for example, construction of bunds and/or provision of screen planting)

1 Environmental Protection (Noise) Regulations 1997 made pursuant to section 123 of the *Environmental Protection Act 1986*.

(vi) the nature and scale of any land use, subdivision and development proposals

(vii) the nature, scale and timing of any current or future extractive or mining operations

(viii) available mechanisms to secure land or restrict further development within potentially affected areas

(ix) local topographical characteristics and climate conditions

(x) existing or future settlement patterns

(xi) the cultural, environmental or heritage significance of any place or area that is of relevance.

7. Referral and applications

7.1 The WAPC and relevant local governments should consult with and give due regard to the advice and recommendations of the Department of Mines, Industry Regulation and Safety when preparing amendments to the GBRS, local planning schemes and scheme amendments to local planning schemes, that include land partly or wholly within the policy areas.

7.2 The WAPC and/or local government will consult with and give due regard to the advice and recommendations of the Department of Mines, Industry Regulation and Safety — except where the Department of Mines, Industry Regulation and Safety has agreed that particular types of development in specific areas do not require referral — prior to determining subdivision and development applications on land within the policy areas.

7.3 In providing advice on local planning schemes, amendments, subdivision and development applications, the Department of Mines, Industry Regulation and Safety will give regard to:

(i) the known extent, quality and quantity of the strategic resources in the locality

(ii) the potential impact on current or future mining or extractive operations

(iii) measures that can be taken to ameliorate the potential impacts of the mining or extractive industry operations

(iv) buffers required between mining or extractive operations and incompatible land uses

(v) the proposed timing for the mining of mineral resources or extraction of basic raw materials

(vi) the possible importance of the strategic resources to the State economy and regional and international markets.

8. Implementation

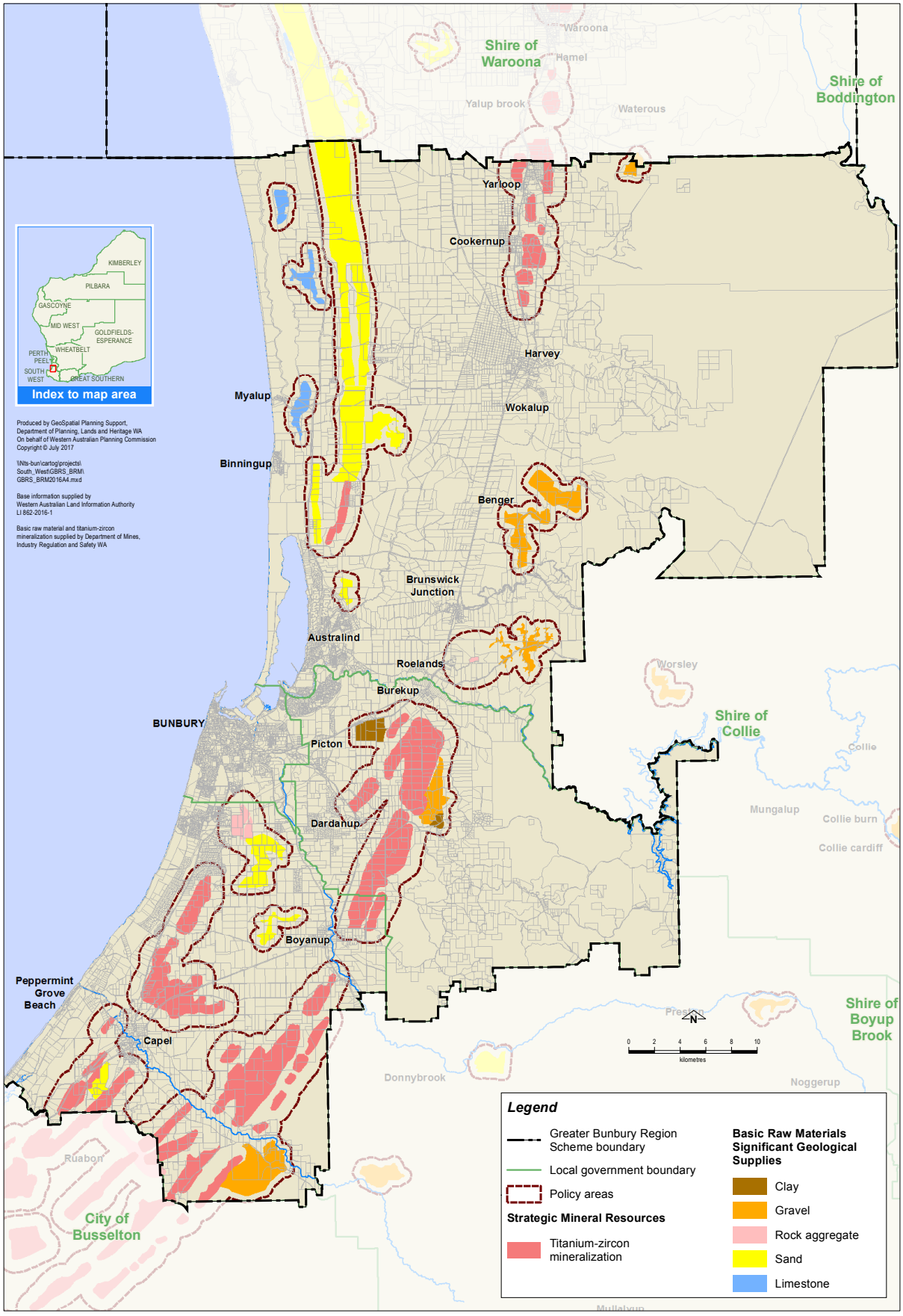
8.1 This policy will be implemented by the WAPC and relevant local government through the administration of:

- the *Planning and Development Act 2005*
- the Greater Bunbury Region Scheme
- local planning schemes
- relevant subdivision and development control processes
- a resolution of the WAPC under clause 27 of the GBRS
- arrangements for delegation of certain decisions to local governments.

8.2 The WAPC will review this policy after a period of five years or sooner if appropriate, and make any amendments that may be required.

8.3 The policy areas in ***Figure 1*** will be updated regularly to acknowledge strategic resources areas that have been mined or extracted, and the identification of new strategic resources considered to be of State or regional significance.

Figure 1: Strategic Minerals and Basic Raw Materials Resource Policy Map



Annexure SGA18

Harvey Kemerton Industrial Area Structure Plan



KEMERTON STRATEGIC INDUSTRIAL AREA

STRUCTURE PLAN

LANDCORP AND DEPARTMENT OF STATE DEVELOPMENT

APRIL 2017

tpg PLACE MATCH

Document Control

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6	23.02.17	Final 4	Matt Raymond		Tony Paduano	
7	26.04.17	Final 5	Matt Raymond		Tony Paduano	

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ENDORSEMENT PAGE

This structure plan is prepared under the provisions of the Shire of Harvey District Planning Scheme 1.

IT IS CERTIFIED THAT THIS STRUCTURE PLAN WAS APPROVED BY RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION ON:

~~[DATE]~~ 24TH MAY 2017

Signed for and on behalf of the Western Australian Planning Commission:

an officer of the Commission duly authorised by the Commission pursuant to section 16 of the Planning and Development Act 2005 for that purpose, in the presence of:

Witness

24 May 2017

Date

24TH MAY 2027

Date of Expiry

Table of Modifications

Table of modifications to the Kemerton Strategic Industrial Area Structure Plan.

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Executive Summary

Covering approximately 7508 hectares of land (including its buffers), the Kemerton Strategic Industrial Area (KSIA), also known as the Kemerton Industrial Park, is located approximately 160km south of the Perth metropolitan region and 17 kilometres north east of Bunbury and its deepwater port, within the Shire of Harvey. It was established in 1985 primarily for major (heavy) industry to provide for downstream processing and value-adding to the South West region of Western Australia's extensive primary resources, especially its substantial mineral resources, for both export and domestic markets.

The purpose of this Structure Plan is to provide a planning framework and the implementation requirements to guide the future development of the KSIA. The Structure Plan has been prepared in accordance with the requirements of clause 9.14 of the Shire of Harvey District Planning Scheme No.1 (DPS1) and applies to the entire KSIA.

The KSIA is comprised of the following areas:

- 2024 ha of Kemerton Strategic Industry zone (the Core) – for the establishment of major industries.
- 284 ha of Kemerton Ancillary Industry zone – industry in this area will be ancillary to the heavy industry in the Core; ancillary meaning that the proposed development must demonstrate that the major portion of the source material, finished product, or services provided are oriented within the Kemerton area.
- 5200 ha of Kemerton Industry Buffer zone (the Buffer) – not intended to accommodate industry but used to ensure that the impacts of industries located in the Kemerton Strategic Industry zone do not adversely impact on properties beyond the boundary of the KSIA.

The subject area currently supports cleared former grazing land, forestry plantations, semi-rural residential land holdings and areas of native vegetation and wetlands. In addition, a number of existing industries and utilities are located within the KSIA. Landownership in the KSIA can be considered in three key categories:

- LandCorp ownership (approximately 57% ownership within the Kemerton Strategic Industry zone, approximately 24% within the Kemerton Industry Buffer zone).
- Department of Parks and Wildlife (DPaW) ownership (approximately 10% ownership within the Kemerton Strategic Industry zone, approximately 44% within the Kemerton Industry Buffer zone).
- Other ownership (private ownership, local government authorities, Infrastructure Service Agencies): approximately 33% ownership within the Kemerton Strategic Industry zone, approximately 32% within the Kemerton Industry Buffer zone).

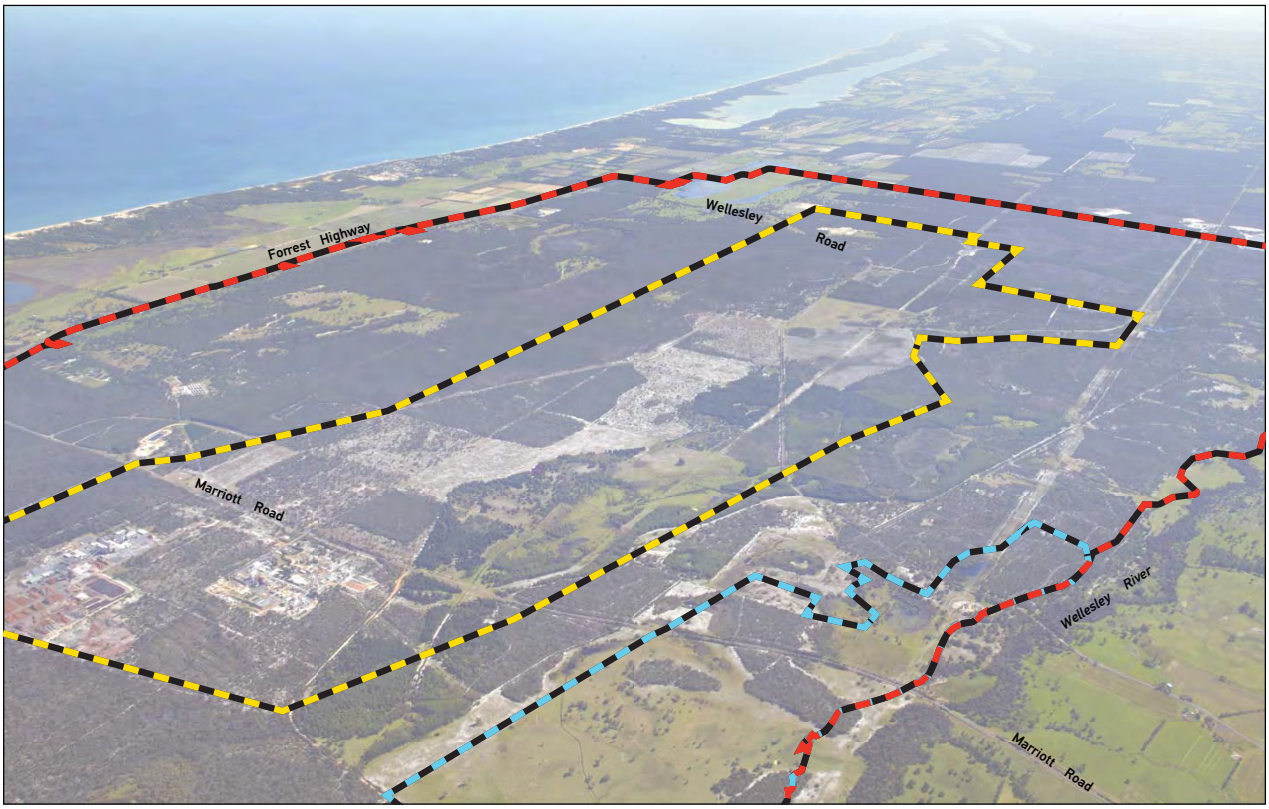
The objectives of the KSIA Structure Plan are to provide a spatial planning framework:

a. To enable the establishment of resource processing industries and associated supporting activity in order to fulfill its designated role as a strategic industrial area for the South-West region.

b. To provide industrial development areas that:
    - are identified for subdivision and Strategic and Ancillary development;
    - are sufficiently flexible to accommodate the varying needs of future proposals including the need for flexible servicing arrangements for industry within the Strategic Industry zone;
    - achieve beneficial economic, environmental and community outcomes;
    - encourage synergic interactions between business activities consistent with the principles of industrial ecology;
    - are protected from the encroachment of incompatible uses;
    - respect visual management considerations;
    - enable environmental protection and management arrangements that minimise impact on the natural environment; and
    - respect sites of Aboriginal heritage significance.

The Department of State Development (DSD) and LandCorp are implementing the *Heavy Use Industrial Land Strategy* which provides the framework for bringing priority Strategic Industrial Areas, including the KSIA, to a 'project-ready' status. This is done by undertaking necessary land-based assessments of the Strategic Industrial Area to inform future site-specific approval requirements for proponent led proposals. The development of the KSIA is expected to occur over a long-term time-frame, depending on the demand for industrial sites. Due to the uncertain nature of strategic industry demand for land areas and servicing requirements, development of sites is intended only when required by a future proponent. Proponents will be responsible for the construction of all infrastructure required to service their sites. Where necessary, this infrastructure may extend beyond their own landholdings. The benefits associated with shared services are acknowledged and LandCorp and DSD will require a proponent's servicing strategy to investigate the opportunity for the construction of shared services to benefit the whole of the KSIA.

Part One - Implementation



Kemerton Strategic Industry

Kemerton Ancillary Industry

Kemerton Industry Buffer

1. Part One - Implementation

1.1 Structure Plan Area

1.1.1 This Structure Plan applies to the Kemerton Strategic Industrial Area (KSIA), being the land contained within the inner edge of the dotted line denoting the Structure Plan boundary on the Structure Plan map (Plan 1), herein referred to as the Structure Plan area.

Refer to Plan 1 – Structure Plan Map

1.2 Structure Plan Content

1.2 .1 This Structure Plan comprises:

- Plan 1 - Structure Plan Map. The Plan outlines the land use classifications applicable within the Structure Plan boundary. Due regard is to be given to these land use classifications when determining subdivision and development applications applicable to the Structure Plan
- Part One – Implementation. The provisions, standards and requirements specified under Part One of this Structure Plan, shall be given due regard in any planning decision making.
- Part Two – Explanatory Section including Technical Appendices. The Explanatory Section of this Structure Plan and all Appendices are to be used as a reference only to clarify and guide interpretation and implementation of Part One.

1.3 Interpretation and Relationship with the Scheme

1.3.1 Unless otherwise specified in this part, the words and expressions used in this Structure Plan shall have the respective meanings given to them in the Shire of Harvey District Planning Scheme No.1 (the Scheme) including any amendments gazetted thereto.

1.3.2 This Structure Plan is to replace the existing Kemerton Park Industrial Area Structure Plan provided under Schedule 18 of the Scheme.

1.3.3 This Structure Plan outlines the land use classifications applicable within the Structure Plan boundary. Due regard is to be given to these land use classifications when determining subdivision and development applications applicable to the Structure Plan.

1.4 Operation

1.4.1 In accordance with clause 9.13.5.14 of the Scheme, this Structure Plan shall come into operation when it is approved by the Western Australian Planning Commission (WAPC).

1.5 Objectives

1.5.1 The objectives of the KSIA are to provide a spatial planning framework:

- To enable the establishment of resource processing industries and associated supporting activity in order to fulfill its designated role as a strategic industrial area for the South-West region.
- To provide industrial development areas that:
  - are identified for subdivision and Strategic and Ancillary development;

- are sufficiently flexible to accommodate the varying needs of future proposals including the need for flexible servicing arrangements for industry within the Strategic Industry zone, and the Ancillary Industry Zone;
- achieve beneficial economic, environmental and community outcomes;
- encourage synergic interactions between business activities consistent with the principles of industrial ecology;
- are protected from the encroachment of incompatible uses;
- respect visual management considerations;
- enable environmental protection and management arrangements that minimise impact on the natural environment; and
- respect sites of Aboriginal heritage significance.

1.6 Subdivision Principles

1.6.1 The nature of Strategic Industry Development and the servicing requirements of particular future industries means that conventional reticulated servicing requirements may not be applicable in all circumstances. As proponents' requirements can vary considerably between projects and from one site to another, the types and methods of service provision should be considered on a case-by-case basis. Where proposals require services to be extended to the site, this should be undertaken in a coordinated way with the rest of the KSIA.

1.6.2 In the Kemerton Strategic Industry area (the Core) proponents will be required to investigate, fund and implement the specific infrastructure and services they require for their developments (i.e. power, water, telecoms, and wastewater solutions).

1.6.3 The delivery of Industrial development within the Kemerton Ancillary Industry area will be different to the approach applied to land within the Kemerton Strategic Industry area (the Core). In the Kemerton Ancillary Industry area the subdivision proponent will be responsible for subdividing lots and preparing site(s) ready for industrial development, as per the standard subdivision process through the WAPC. This will include providing infrastructure (sewer, reticulated water, underground power and telecommunications) to subdivided lots. A Local Development Plan shall be prepared for any proposal where 3 lots or more are being created.

1.7 Land Use Requirements

1.7.1 Land use permissibility within the Structure Plan area shall be in accordance with the corresponding zones and reserves under the Scheme:

- Kemerton Strategic Industry zone;
- Kemerton Ancillary Industry zone;
- Kemerton Industry Buffer zone;
- Regional Open Space; and
- Public Purposes.

1.8 Subdivision and Development Requirements

1.8.1 Prior to subdivision or development the proponent shall prepare and submit the following details to the satisfaction of the relevant authorities as required:

- A Detailed Bushfire Management Plan in accordance with SPP 3.7 and reflecting the outcomes of the Bushfire Management Plan at Appendix G;
- A Water Management Plan as per the Over-arching Water Management Strategy at Appendix F;
- A proposal specific Environmental Management Plan as per the Over-arching Environmental Management Plan at Appendix C.

This may include:

- A Landscape and Visual Amenity Assessment for any proposals within the area identified in the Structure plan as 'Ridge landscape priority' or 'In evident visual alteration';
- A Foreshore Management and Landscaping Plan for any proposals involving development of the Ancillary Industry area to ensure buffering of the land to the east of the Wellesley River, south of Devlin Road and the Wellesley River; and
- Detailed flora and fauna surveys as per the EPA Guidance Statement 51 and 56.

1.8.2 Development within the Structure Plan area is subject to planning approval by the Shire of Harvey under District Planning Scheme No. 1, or where applicable, the WAPC under the Greater Bunbury Region Scheme.

1.8.3 As proponents' development requirements can vary considerably based on the type of industry, associated operational requirements and site-specific characteristics, the imposition of generic Development Approval conditions will not always be appropriate and may not reflect the flexibility required in the KSIA. Conditions of Development Approval should therefore be considered on a case-by-case basis and have due regard to the objectives and provisions of this Structure Plan.

1.9 Environmental Management

1.9.1 The Overarching Environmental Management Plan (EMP) establishes the deferred environmental factors, to be addressed by a proponent through a proposal specific EMP before a subdivision or development application can be considered by the Local Authority and/or the Department of Planning.

1.9.2 A proposal specific EMP will only be required as a condition at either the Subdivision or Development Application stages if the proposal will have an impact on the deferred environmental factors.

1.9.3 Any conditions in a proposal specific EMP must be capable of being complied with during the execution of the proposal and not create ongoing obligation beyond the completion of the proposal.

1.9.4 A strategic assessment of the proposed Kemerton Strategic Industrial Area under the *Environmental Protection and Biodiversity Act 1999* has not been undertaken. As a result individual proponents will be required (as necessary) to obtain any necessary Commonwealth Environmental approvals on a case by case basis in addition to any environmental approvals required under State Environmental Legislation (including the *Environmental Protection Act 1986*, and associated Regulations).

1.10 Matters to be Considered

1.10.1 When considering applications within the Kemerton Industry Buffer area, Local Government shall have regard to:

(a) the Kemerton Strategic Industrial Area Structure Plan;

(b) whether the proposal is compatible with any existing or proposed future use or development within the Kemerton Strategic Industry zone and the Kemerton Ancillary Industry zone;

(c) the existing, proposed or likely risks, hazards and nuisance (including but not limited to noise, odour and light) associated with the Kemerton Strategic Industry zone;

(d) the potential impacts of the proposal on the efficient development of the Kemerton Strategic Industrial Area;

(e) any other relevant planning and environmental considerations including, but not limited to, provisions of the State Planning Framework;

(f) recommendations of the chief executive officer of the Department of Mines and Petroleum in the administration of the *Mining Act 1978* and the chief executive officer of the Environmental Protection Authority in the administration of the *Environmental Protection Act* 1986; and

(g) any other issue Local Government deems relevant.

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KEMERTON ROAD

TREASURE ROAD

FORREST HIGHWAY

ROSAMEL RD

35m RESERVE

95m WIDE SERVICE CORRIDOR

WELLINGTON ROAD

WELLESLEY RIVER

Rail to connect with Southwest main line and Bunbury Port

SU

W.W.T.P

MARRIOTT ROAD 50m RESERVE

35m RESERVE + 10m PIPELINE

20m RESERVE

DEVLIN ROAD

BRUNSWICK RIVER

LEGEND

- Kemerton Strategic Industrial Area Structure Plan Boundary
- Existing lot cadastre
- Conceptual local road and lot layout
- Indicative railway
- Indicative Perth to Bunbury fast train alignment
- EPP 1992 SCP Wetlands
- Conservation/Resource Enhancement Wetlands
- Wetland buffer
- Landscape Control Areas - landscape and visual amenity implementation measures apply – refer 1.8.1
- Primary Regional Road
- Regional Open Space
- Public Purpose
- Kemerton Strategic Industry
- Kemerton Ancillary Industry
- Kemerton Industry Buffer
- Special Control Area No. 2

NOTES:

1. The alignment of all existing road reserves may be subject to further assessment at the subdivision stage to assess whether the alignment is suitable or whether an alternative alignment would be preferred/required.
2. Lot sizes, configuration and development 'footprint' are to be determined at the subdivision stage based upon detailed assessment of a range of criteria including the OWMS, bushfire management, biodiversity measures (including wetland management and habitat protection) and the extent of clearing required to implement the proposal.

Plan 1

Structure Plan

Kemerton Strategic Industrial Area

Date: 28 March 2017

Scale: 1:35,000 @ A3

Project Manager: MR

Checked: MR

Drawn: LC

Drawing No. 710-065 ST1E 2017-03-28.dgn

0 1500m

TOWN PLANNING
URBAN DESIGN AND HERITAGE

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TREASURE ROAD

KEMERTON ROAD

95m WIDE SERVICE CORRIDOR

WELLINGTON ROAD

WELLESLEY RIVER

WELLESLEY ROAD

MARRIOTT ROAD

DEVLIN ROAD

BRUNSWICK RIVER

, 1999)

aints of the site. It is possible that some of these areas will not
tal values present. The mapping should be used as a guide,
ts needed for individual development areas. Approval
l be determined through the necessary approvals process.

Plan 2

Vegetation Considerations

Kemerton Strategic Industrial Area

Date: 27 February 2017

Scale: 1:35,000 @ A3

Project Manager: MR

Checked: MR

Drawn: LC

Drawing No. 710-065 ST2A 2017-02-27.ai

0 1500m

Source: Ecological Australia

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TOWN PLANNING
URBAN DESIGN AND HERITAGE

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Part Two - Explanatory Section

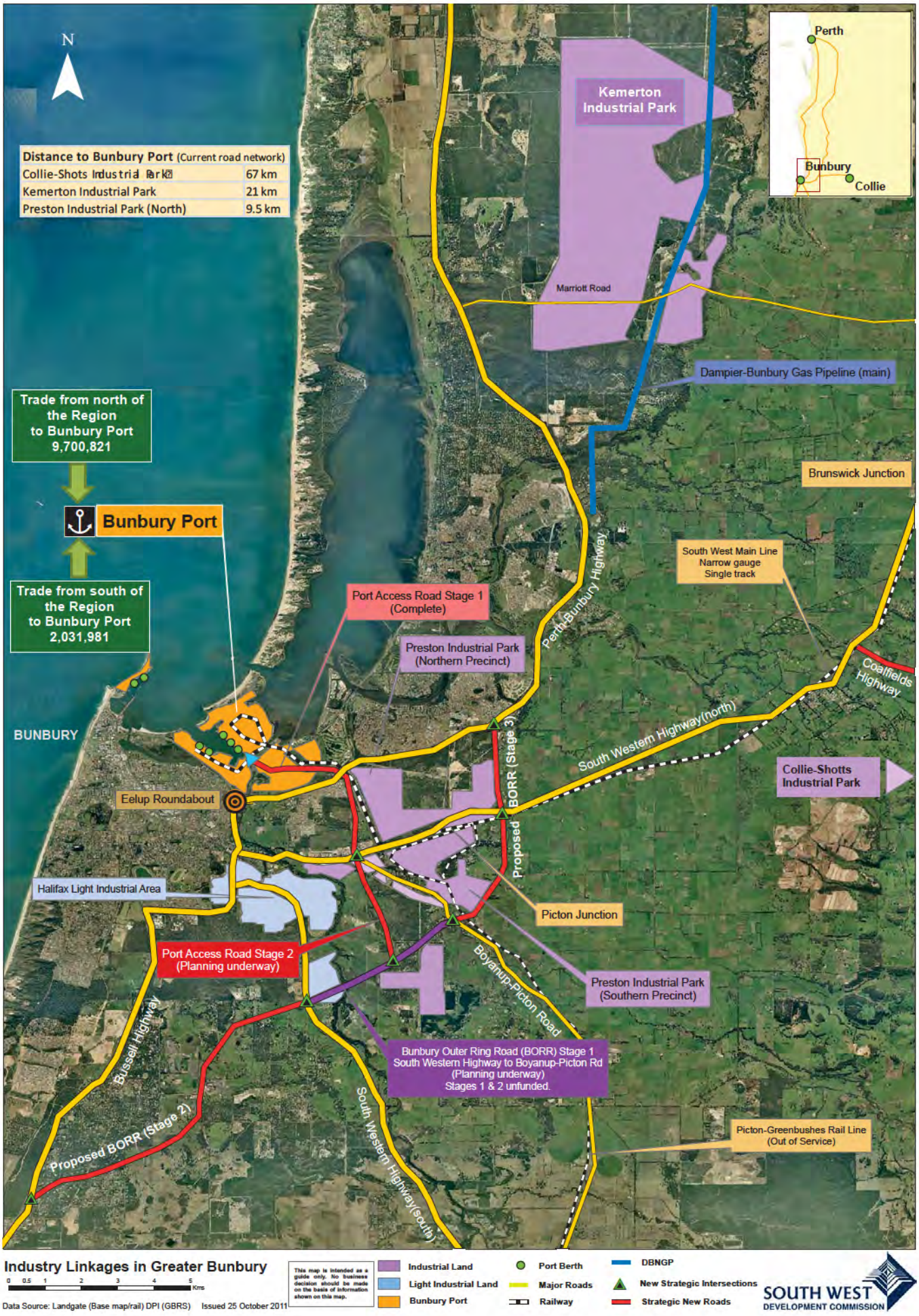


Figure 1 Industry Linkages in Greater Bunbury. Source: South West Development Commission

Part Two - Explanatory Section

2. Introduction

2.1 Introduction

The Kemerton Strategic Industrial Area (KSIA), also known as the Kemerton Industrial Park, is the largest heavy industrial area in the South West of Western Australia and is one of the State's designated 'Strategic Industrial' areas. The KSIA Structure Plan has been prepared to enable the coordinated delivery of heavy and general industrial development by establishing a coordinated planning framework and conceptual designs.

2.2 Purpose, Scope and Structure of Documents

The principle purpose of the KSIA Structure Plan is to provide an agreed design and management framework which will enable the KSIA to be implemented in a logical and responsible manner, coordinating land use, services and infrastructure.

The Structure Plan has been prepared in accordance with Clause 9.14 (Structure Plans) of the Shire of Harvey's District Planning Scheme No.1. It provides a broad framework to guide the Shire of Harvey and the Western Australian Planning Commission when it considers subsequent subdivision and development proposals.

2.3 Overview of the KSIA

The KSIA was established in 1985 primarily for major (heavy) industry to provide for downstream processing and value-adding to the region's extensive primary resources, especially its substantial mineral resources, for both export and domestic markets. The KSIA was established with a large buffer to cater for heavy industries requiring a large buffered area for containing operational elements (including air, noise and risk emissions).

The site is uniquely located to take advantage of the South West Region's mineral sands and alumina industries. It is ideally located to support some of the area's other resources industries including coal, tantalum and spodumene mining and for downstream processing of the region's timber industries. The KSIA is accessible to the Port of Bunbury by road and planned rail link and is well located in relation to the hinterland of the South West region and its substantial primary industries. The KSIA also benefits from good highway access to the metropolitan area and to other industrial areas in the region, including the Preston Industrial Park and Shotts Strategic Industrial Area.

It is expected that the industries that locate in the Kemerton Strategic Industry zone (the Core) will be those that support existing south west industries and strengthen the economic base of the region by adding value to primary and secondary resources. Future industries in the KSIA are anticipated to belong to one or more of the following categories:

- Chemical and resource processing (e.g. existing Cristal Pigment and Simcoa silicon smelter);
- High technology (e.g. titanium applications);
- Downstream processing (e.g. silicon applications); and
- Power generation (e.g. gas fired, biomass fired).

The KSIA is anticipated to generate significant wages and salaries for the employees. According to the economic and social analysis undertaken by Syme Marmion

and Co (refer to Appendix A - Economic and Social Analysis Report), the KSIA will also generate additional employment off-site in other areas of the South West, Perth and regional Western Australia.

Refer to Figure 1 - Industry Linkages in Greater Bunbury

2.4 Consultant Team

The KSIA Structure Plan has been prepared on behalf of LandCorp and the Department of State Development (DSD) with input from the following consultants:

Table 1 - Consultant Team Inputs

Consultant	Report/Data
TPG Town Planning, Urban Design and Heritage	KSIA Structure Plan Report (2015)
Ecological Australia	KSIA Over-arching Environmental Management Plan (2014)
RUIC Fire	Strategic Overarching Bushfire Management Plan Kemerton Industrial Area
RPS Environmental	Overarching Water Management Strategy, KSIA
Wood and Grieve Engineers	KSIA Civil Servicing and Engineering Report
Syme Marmion and Co	Kemerton Industrial Park Economic and Social Analysis (2011)
Parsons Brinkerhoff	Kemerton Industrial Park – Acid Sulfate Soil and Dewatering Management Plan Kemerton Industrial Park –Wetland Management Plan Kemerton Industrial Park – Waste Disposal Management Strategy
Transcore	Kemerton Industrial Park –Updated Local Structure Plan Transport Assessment (2014)
GHD	KSIA Sidings and Spur Rail Design Report (2014)
Douglas Partners	Report on Preliminary Geotechnical Investigation, Kemerton Industrial Park (2011)
Brad Goode and Associates	A Site Identification Aboriginal Heritage Survey of the Proposed Kemerton Industrial Park In the Shire of Harvey, Western Australia (2011)
Herring Storer Acoustics	Kemerton Industrial Park Environmental Noise Assessment (2014)
William James Landscape Architect	Kemerton Strategy Plan Landscape Assessment Study (2007)
Air Assessments and Environmental Alliances	Air quality modelling for the expansion of the Kemerton Industrial Estate (2010)
ERS Environmental Risk Solutions	Kemerton Risk Modelling (2011)
McMullen Nolan Group	KSIA Surveying Data (2014)

3. Site Context and Land Description

3.1 Location

The KSIA is located within the Shire of Harvey approximately 160km south of the Perth metropolitan region and 17 kilometres north east of Bunbury and its deepwater port. The subject site is bound to the east and southeast by the Wellesley River and to the west and southwest by Forrest Highway.

Refer to Figure 2 – Location Plan

3.2 Area and Land Use

The KSIA is 7,508 hectares (ha) in total size, comprising the following land areas as identified on the Structure Plan:

- 2,024 ha as the Kemerton Strategic Industry zone;
- 284 ha as the Kemerton Ancillary Industry zone; and
- 5,200 ha as the Kemerton Industry Buffer zone (which includes 234 ha as Public Purpose and 195 ha as Regional Open Space.)

The area identified as the KSIA currently contains cleared former grazing land, forestry plantations, semi-rural residential land holdings and areas of native vegetation and wetlands. In addition, a number of existing industries and utilities are located within the KSIA. These include:

South of Marriott Road

- Simcoa Operations Pty Ltd (silicon smelter);
- Cristal Pigment (titanium dioxide plant);
- Nufarm-Coogee Pty Ltd (chlorine gas and sodium hydroxide plant);
- BOC Gases (oxygen and nitrogen);
- Cockburn Cement (lime hydration plant); and
- Western Power zone substation.

North of Marriott Road

- Kemerton Silica Sand (quarry);
- Transfield Services Kemerton Power Station (north east corner of the Strategic Industry zone);
- Western Power electricity transmission terminal (northern end of the Strategic Industry zone); and
- Tesla Corporation.

Refer to Figure 3 - Landownership and Existing Industries

The Kemerton Ancillary Industry zone comprises a mix of cleared former grazing land, areas of native vegetation and wetlands, pockets of forestry plantations and several small rural land holdings.

The Kemerton Industry Buffer zone is generally void of development and largely retained as natural vegetation. Land uses in the Buffer include regional open space, conservation areas, rural uses (including agriculture and quarrying), forestry plantations and landfill sites.

There are two areas identified as Public Purpose on the Structure Plan for “Special Uses”. The Kemerton Wastewater Treatment Plant (KWWTP) which services the nearby urban areas of Eaton and Australind is located on Water Corporation owned land to the west of the Strategic Industry zone, on the northern side of Marriot Road. The second area is the City of Bunbury and Shire of Harvey Regional Council Tip Site, located within the Buffer to the south of the Strategic Industry zone.

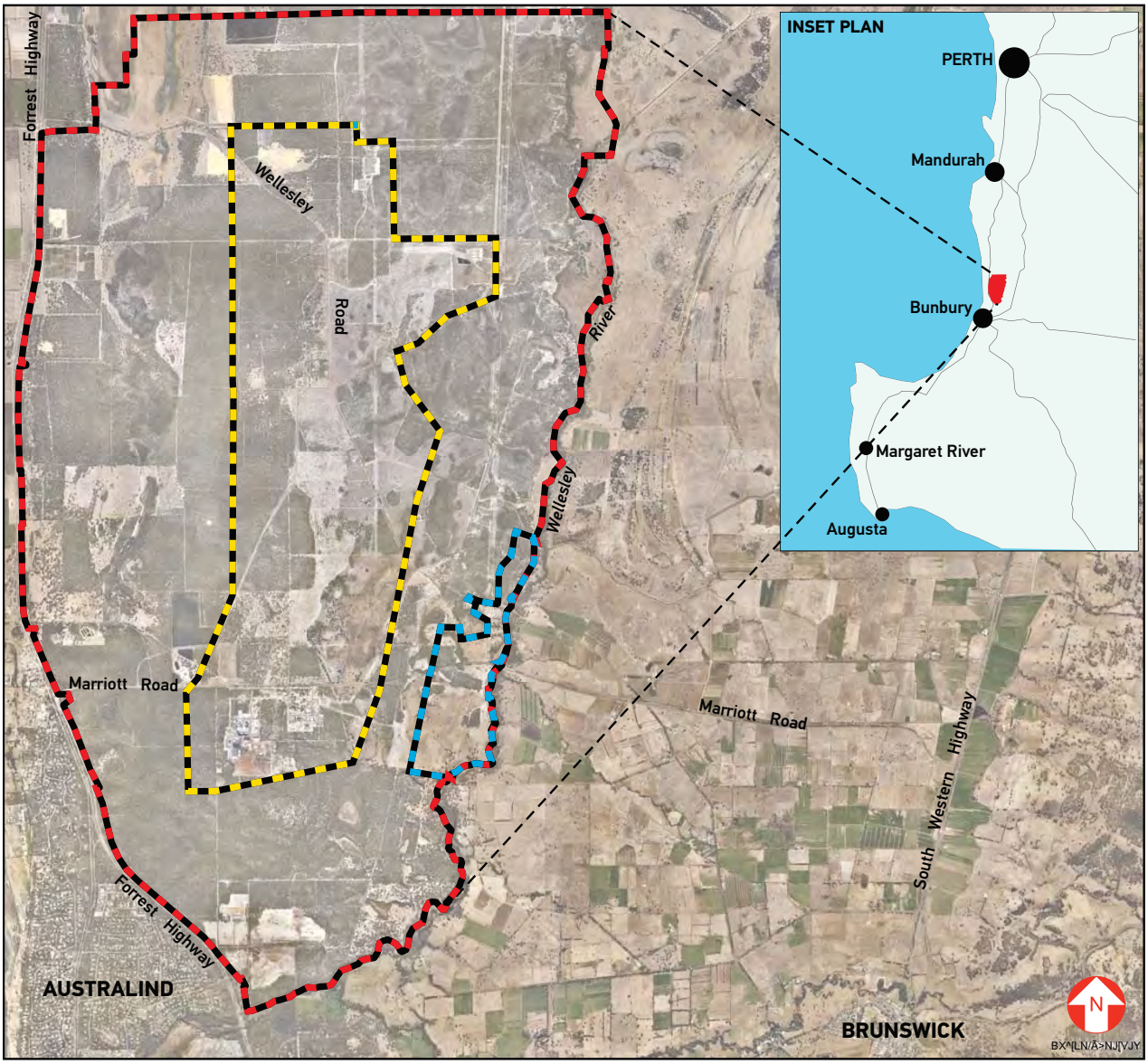


Figure 2 Location Plan

Two areas of Regional Open Space (ROS) associated with existing wetland areas are located within the KSIA. A large area of ROS is located on the north-eastern boundary of the Kemerton Strategic Industry zone, adjacent to Treasure Road and west of Wellington Road. A second smaller ROS is located north-west of the Kemerton Ancillary Industry zone, spanning across Wellesley Road. ROS also abuts the eastern boundary of the KSIA along the Wellesley River.

3.3 Legal Description and Ownership

Landownership in the KSIA can be considered in three key categories:

- LandCorp ownership (approximately 57% ownership within the Kemerton Strategic Industry zone, approximately 24% within the Kemerton Industry Buffer zone).
- Department of Parks and Wildlife (DPaW) ownership (approximately 10% ownership within the Kemerton Strategic Industry zone, approximately 47% within the Kemerton Industry Buffer zone). It is expected that over time DPaW will become responsible for the management of increasing portions of the Buffer zone, as land is progressively protected for conservation purposes.
- Other ownership (private ownership, local government authorities, Infrastructure Service Agencies): approximately 33% ownership within the Kemerton Strategic Industry zone, approximately 32% within the Kemerton Industry Buffer zone).

Refer to Figure 3 - Landownership and Existing Industries

Table 2 - Land Areas and Tenure

Land Area Summary	Ha	Tenure	%
TOTAL AREA OF KSIA	7508		
Kemerton Strategic Industry Zone			
Total Area	2024*		
	1146	LandCorp	57%
	678	Other ownership (private ownership, local government authorities, Infrastructure Service Agencies and road reserves):	33%
	200	Department of Parks and Wildlife	10%
Kemerton Ancillary Industry Zone			
Total Area	284		
		LandCorp	10%
Kemerton Industry Buffer			
Total Area	5200		
	1247	LandCorp	24%
	1689	Other ownership (private ownership, local government authorities, Infrastructure Service Agencies and road reserves):	32%
	2264	Department of Parks and Wildlife	44%

* Total area includes existing road reserve areas.

3.3.1 Kemerton Strategic Industry Zone (the Core)

The majority of land within the proposed Kemerton Strategic Industry zone (formerly referred to in the Kemerton Industrial Park Strategy Plan, 2005 as 'the Core') is owned by the WA Land Authority (trading as LandCorp). The southern portion of the Core (south of Marriott Road) is owned or leased largely by private industry. Landholdings located along the western side of the Core (added as a result of the Kemerton Expansion Study and shown under the GBRS) are owned by the Department of Parks and Wildlife (DPaW).

3.3.2 Kemerton Industry Buffer (the Buffer)

The majority of the Buffer is owned by the DPaW (44%). LandCorp owns approximately 24% of the Buffer area which is located largely along the eastern side of the KSIA, adjacent to the Wellesley River. LandCorp also owns landholdings within the existing Inter Industry Buffer zone (proposed to be merged with the Kemerton Industry Buffer zone as part of a proposed local scheme amendment to the Shire of Harvey District Planning Scheme No.1). The Water Corporation, the Bunbury-Harvey Regional Council and the Shire of Harvey control other Buffer land in public ownership. Private landowners are mostly located in the northern part of the Buffer (such as Kemerton Silica Sands). A number of power, gas and water easements also apply to landholdings within the KSIA. The proponent is to make direct contact with the private landowners within the buffer and to provide information in relation to the future zoning of their land and the ramifications of the future zoning

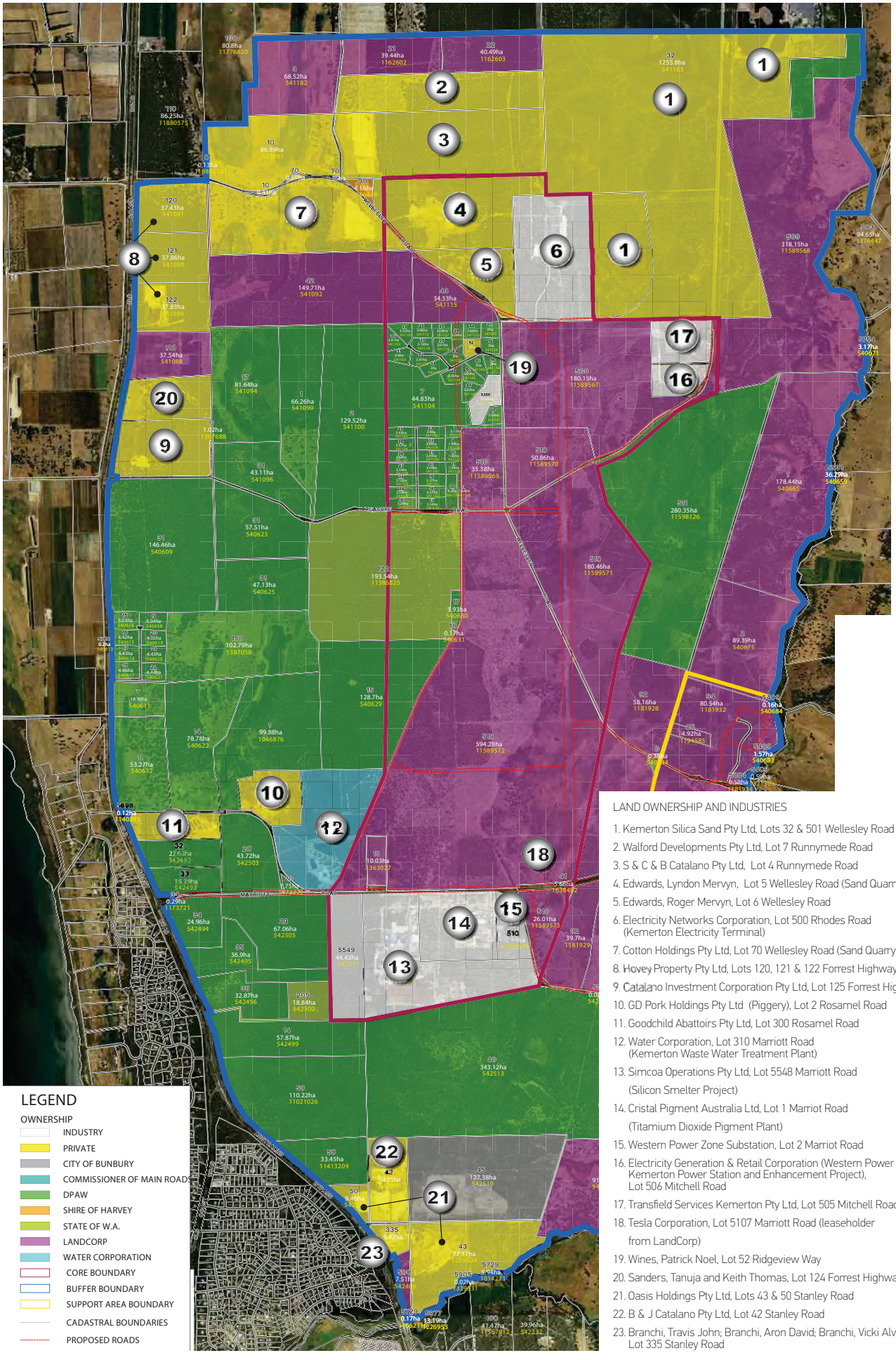


Figure 3 Landownership and Existing Industries: Source McMullen Nolan

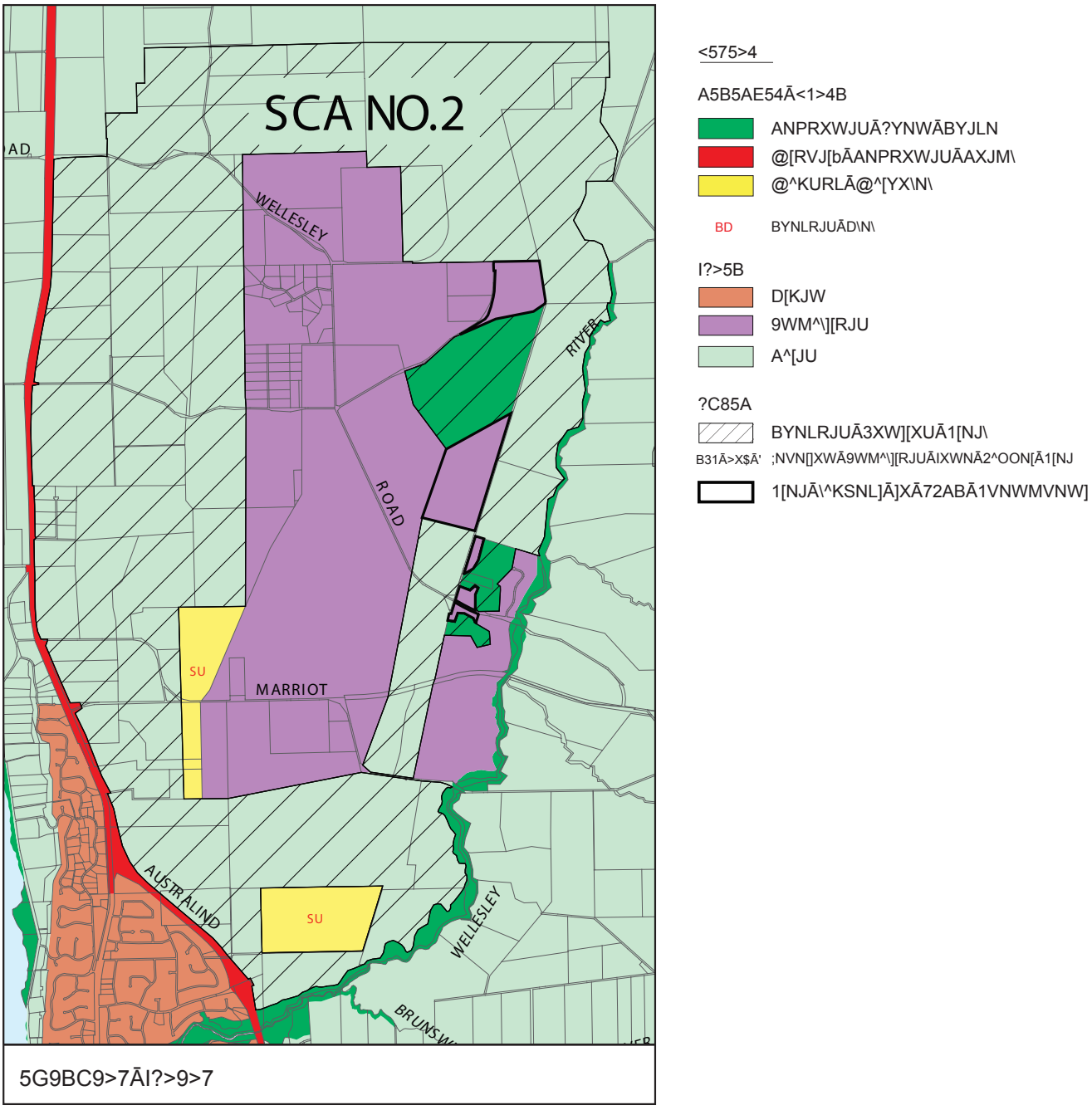


Figure 4 Extract of Existing Greater Bunbury Region Scheme which Shows the Extent of the Special Control Area No.2

4. An Overview of the KSIA's History

In 1985 the Core was established as 1,151 ha with a surrounding Buffer (to mitigate indirect effects from the industrial development on surrounding residents/ sensitive premises) of approximately 4278 ha. By 1997 an additional 963 ha of industry land was proposed, based on the Kemerton Expansion Study (BSD Consultants 1997). The study proposed an expansion of the Core to a total of 2114 ha and the Buffer to 5429 ha. This study was one of the investigations included in a report entitled Industry 2030 – Greater Bunbury Industrial Land and Port Access Planning, prepared by the WAPC. The report included a final concept plan for the expansion of the KSIA based on the Kemerton Expansion Study.

The Western Australian Planning Commission (WAPC) also reflected the expanded KSIA in the draft Greater Bunbury Region Scheme (2000) which was subsequently adopted and has been in operation since November 2007.

Refer to Figure 4 which shows the extent of the industrial zoned areas and the prescribed Buffer 'Special Control Area No.2 – Kemerton Industry zone Buffer Area' which currently apply under the Greater Bunbury Region Scheme.

By late 2005, LandCorp in association with the Department of Industry and Resources (now Department of State Development) engaged Thompson McRobert Edgeloe, Coffey Environments and William James Landscape Architect to prepare a strategy plan which would facilitate progressive development of the KSIA. The Kemerton Industrial Park Strategy Plan (TME, 2009) brought together the key elements of various studies and investigations prepared for the site over the years into an up-to-date plan.

A full list of the previously completed studies for the Kemerton Industrial Park Strategy is provided as Appendix B.

Substantial public consultation was undertaken over 2007 and early 2008. The Kemerton Industrial Strategy Plan concluded and acknowledged that ongoing environmental, heritage, and engineering investigations would be required. A number of recommendations were made as part of the Strategy. These recommendations and the responses to each of these recommendations are provided in Table 3 overleaf.

Refer to Figure 5- Kemerton Industrial Park Strategy Plan

Table 3 – Kemerton Industrial Park Strategy Recommendations and Responses

Item	Strategy Recommendation	Response
1	The Strategy Plan be adopted and utilised by the Western Australian Planning Commission, Environmental Protection Authority, other State Government agencies and the Shire of Harvey as the overall guide to development of the Kemerton Industrial Park.	The Strategy Plan has been used as a key reference document to guide the preparation of the proposed Structure Plan and supporting studies.
2	Relevant State Government departments and agencies prepare suitable documentation, and seek Western Australian Planning Commission and State Government support, to amend the Greater Bunbury Region Scheme (GBRS) to remove areas of inconsistency between the Strategy Plan and the GBRS.	Amendment documentation seeking to rectify inconsistencies in the GBRS mapping has been prepared and is to be processed after the lodgement of the local Scheme Amendment..
3	Relevant State Government departments and agencies prepare suitable documentation, and seek Harvey Shire Council initiation, of an amendment(s) to District Planning Scheme No. 1 to facilitate implementation of the KIP Strategy Plan, including preparation and approval of a Structure Plan.	Completed. A local scheme amendment was adopted in 2011 by the Minister for Planning to amend the Shire's scheme text to include provisions to enable the assessment and implementation of Structure Plans.
4	LandCorp and the Department of State Development commission a review of the historical quantitative assessment work (risk, air, noise impacts) to ensure that the data, modelling and conclusions accurately reflect current policy and practice and confirm adequacy or otherwise of the Buffer to contain impacts of future industry within the Core.	A body of work has been undertaken by appointed consultants to review and update risk, air and noise impact studies. These works confirm that the data and modelling meets current policy and practice requirements, and confirms that the Buffer is adequate to contain the potential impacts of future industry within the Core.
5	New baseline datasets and modelling be established and regularly updated for the following parameters: • Meteorological data in a form acceptable to the Air Quality Branch of Department of Environment and Conservation; • Site topography and depth to ground water; • Noise and air quality data and cumulative modelling of both (including odour); • Cumulative risk data and modelling; • Vegetation, flora and fauna; and • Wetland and groundwater quality. The modelling should be regularly updated using actual industries as they are proposed, built and operated.	These works have been undertaken, with ongoing monitoring and management strategies identified within the overarching Environmental Management Plan.
6	The State Government re-affirm: • responsibility of the Kemerton Industrial Park Co-ordinating Committee (KIPCC) for overseeing environmental monitoring of the industrial park as a whole and for advising on management of public land within the Buffer; and • the role of the Kemerton Community Committee (KCC) in providing information to the community and providing feedback and advice to the KIPCC should also be re-affirmed.	The KIPCC oversees the planning and management of the KSIA. The committee provides advice to the Western Australian Minister for State Development through the DSD. The key roles of the KIPCC are to support the planning and development of the KSIA, to provide input into the management of the KSIA and to share information at a local and regional level. There will be an on going responsibility for the KIPCC to review cumulative industry air and noise emissions. The KIPCC will stay in its current format. This will enable a clear path of communication for the government organisations involved in the project and a forum for community participation. It will also be an advisory and overseeing body. This is separate from the Working Group, which will have terms of reference as outlined in the State Heavy Industrial Policy.

Item	Strategy Recommendation	Response
7	Relevant State Government departments and agencies be adequately resourced to ensure appropriate environmental monitoring of the KSIA and support to the KIPCC.	LandCorp and DSD, are responsible for coordinating activities related to the KSIA. This will be done in coordination with the various agencies outlined in Section 13.4.
8	The KIPCC to ensure that as more industries locate in Kemerton that an integrated spill and emergency response system similar to the Kwinana Integrated Emergency Management System in the Kwinana industrial area is developed by industry.	Each industry will be responsible for preparing an integrated spill and emergency response system.
9	The EPA and Department of Health set appropriate restrictions on industries locating in the site in relation to stockpiling of hazardous wastes (such as limits on the quantity, storage requirements and duration of storage prior to treatment) to provide greater public confidence in management of hazardous waste.	The Waste Disposal Management Strategy addresses the key potential issues and needs associated with the waste generated by the KSIA.
10	Land vested in the Department of Environment and Conservation (now Department of Parks and Wildlife) within the Core identified for industry purposes (i.e. - excluding Significant Vegetation/Wetland Management Areas as identified in the Strategy Plan) be transferred to LandCorp following completion of the District Planning Scheme amendment process.	Land areas shall be transferred upon the adoption of the Structure Plan and associated local scheme amendment.
11	Land owned by LandCorp within the Buffer (excluding the Inter Industry Buffer) that is not required for infrastructure purposes as identified in the Strategy Plan be transferred from LandCorp to DPaW following completion of the District Planning Scheme amendment process.	Land areas shall be transferred between DPaW and LandCorp upon the adoption of the proposed Structure Plan and associated local scheme amendment.
12	DSD and LandCorp commission a comprehensive archaeological and ethnographic survey of Aboriginal heritage over the Core and Support Industry area, as a matter of priority.	A site identification Aboriginal heritage survey was completed in 2011. Details of these findings and recommendations are provided within Section 6.5 of this Structure Plan.
13	LandCorp to support and progressively implement the landscape management guidelines set out in the Strategy Plan and in the Kemerton Strategy Plan Landscape Assessment Study (James, 2007) including planning guidelines relating to the north-west ridge area.	These guidelines have been considered and applied as part of this Structure Plan by the incorporation of landscape corridors along road reserves. Individual industrial lot landscape provisions are currently enforced under the Shire of Harvey's planning scheme. Development adjacent to the ridge will be subject to site design and landscape planting requirements.
14	The KIPCC, in conjunction with the Department of State Development, LandCorp, Department of Water and the Water Corporation progress investigation of an integrated water cycle management strategy for the site that includes water supply and wastewater management options; and drainage management as part of a Local Water Management Strategy.	A overarching water management strategy has been prepared in response to these elements.
15	LandCorp and the DER establish a program to monitor and maintain the environmental qualities of the Buffer, particularly areas identified for Vegetation Management and River and Wetland Conservation and maintenance of regional ecological linkages.	DER will take the lead role in managing land within the Buffer. It may also accept vesting conservation areas within the KSIA, should this be a logical addition or have links to other land managed on behalf of the State Government.

Item	Strategy Recommendation	Response
16	The DSD and LandCorp, in consultation with the Shire of Harvey, liaise with the owners of the private road known as the Kemerton Silica Sands Haul Road to formalize it as a gazetted public road.	This shall be undertaken following Structure Plan and scheme amendment approval.
17	In relation to those private landowners in the Buffer who are desirous of having their properties purchased by the State Government, it is recommended that the Government review the current policy on land acquisition so that the criterion that has to be met for acquisition is more flexible.	Following finalisation of the scheme amendment and Structure Plan, LandCorp and DSD shall seek to review the land acquisitions of private properties within the KSIA,
18	As part of implementation LandCorp progress planning and secure approvals for medium-size industrial lots adjacent to, and on the northern side of, Marriott Road as a matter of priority.	On 21 September 2009 the WAPC approved the creation of 9 lots on the northern side of Marriott Road ranging in area between 5 ha to 20 ha and 2 conservation lots of 9.77 ha and 2.25 ha.

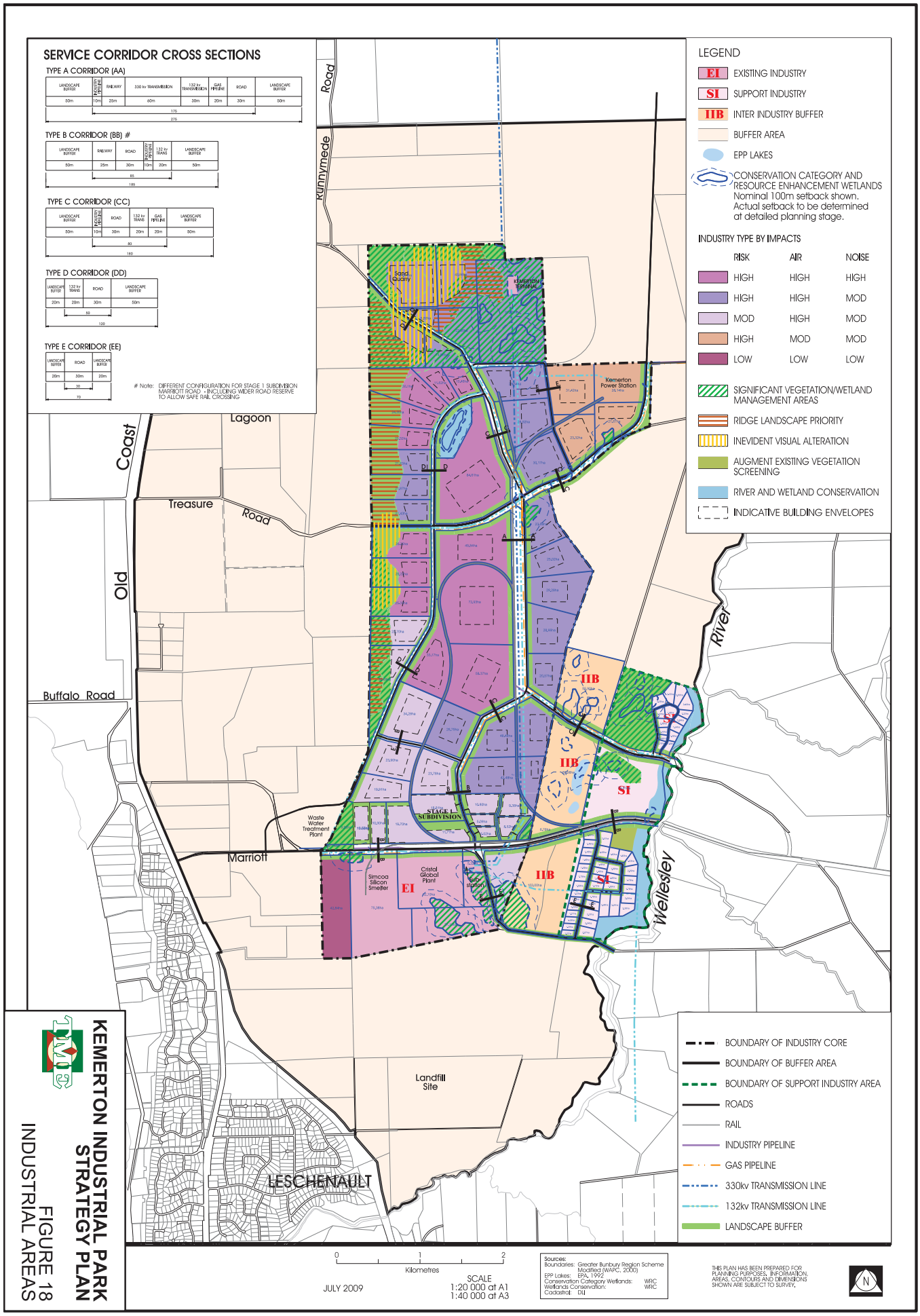


Figure 5 Kemerton Industrial Park Strategy Plan

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5. Planning and Environmental Framework

5.1 Strategic Planning Framework

5.1.1 State Planning Strategy 2050

The State Planning Strategy 2050 is an Overarching strategic document that provides direction for all State, regional and local planning strategies, policies and approvals. It identifies mining and downstream processing to be a key economic driver for the South West sector. The KSIA is identified under the Strategy as a designated strategic industrial area. Strategic industrial areas are recognised as being of significant economic and strategic importance for the State, and require suitable and appropriate integration with surrounding compatible land uses and buffer areas to ensure long-term sustainability.

The following strategic approaches of the Strategy are relevant to the development of the KSIA:

- Project-ready (see 13.4.1 p.94) industrial land is to meet the demands of the resources sector.
- Appropriate strategic industrial land and infrastructure to be provided to support priority sectors throughout the State.
- Strategic industrial lands are to be developed to acceptable environmental standards to ensure ongoing investment and sustainable economic growth.
- Industrial ecology is to be maximised in the planning and operation of all strategic industrial areas .
- Land is to zoned or reserved for economic activity including strategic industrial sites and supporting infrastructure and buffers.
- Industrial areas are structure planned to produce optimal output with minimal waste.
- Clusters of industry drive productivity and stimulate new ancillary businesses.
- Research and technology clusters support and foster economic diversity.
- All strategic industrial areas are developed to an approved Structure Plan.

The development of the KSIA aligns with the objectives of the State Planning Strategy. The Structure Plan facilitates the supply of strategic industrial land for the southwest region.

5.1.2 Greater Bunbury Strategy 2013

The Greater Bunbury Strategy has been prepared by the Department of Planning in collaboration with the local governments of Bunbury, Capel, Dardanup, and Harvey and in consultation with service providers. It addresses the key elements within the Greater Bunbury sub-region to inform and guide planning and management of urban growth and infrastructure delivery from 2011 to 2031 and beyond.

The Strategy incorporates the Greater Bunbury Structure Plan 2011 – 2031, which aims to represent the outcomes of the Strategy spatially by identifying and providing appropriate areas for industry, locations of key infrastructure, environmental significant areas and locations for residential growth. The Strategy acknowledges the appropriately zoned industrial land currently available in the KSIA as one of three Strategic Industrial Centres. The Strategy aims to ensure that these centres are well serviced by road and rail infrastructure, and are provided with ‘fit for purpose’ water, and are accessible to a skilled workforce. The KSIA is identified as a strategic location for larger or heavier industrial uses that cannot be accommodated elsewhere.

One of the policy measures of the draft Greater Bunbury Strategy is that industrial expansion areas are required to have a structure plan endorsed by the WAPC prior to any development occurring to ensure sites are developed in an efficient and sustainable way.

The Strategy also proposes that large scale opportunities exist for water recycling and reuse, such as major wastewater treatment facilities at KSIA with water being cleaned to a standard fit for purpose and reused for industrial, agricultural, landscaping and domestic use.

Refer to Figure 6 - Greater Bunbury Strategy 2013

5.1.3 Bunbury-Wellington Region Plan (1995)

The Bunbury-Wellington Region Plan (1995) was adopted by the WAPC as the Regional Plan to guide statutory planning decision-making in the Bunbury-Wellington region. Amongst its recommendations relating to the KSIA were:

- Installing the KSIA rail spur adjacent to Marriott Road;
- Supporting new industries such as the production of tonnage glass, special ferrous metals, rare earths and peculiar metals from heavy minerals and processes related to chlor-alkalis;
- Identify and protect buffer zones around industrial areas from encroachments by incompatible land uses such as residential; and
- Provide the community with adequate information about proposed industrial developments at an early stage.

The region plan incorporates the Greater Bunbury Structure Plan (1995) which identified the Core, Support Industry Area and Buffer at the KSIA. 'Planning Unit CO3 – Kemerton' specifically provides for development to proceed in accordance with the approved Kemerton Industrial Park Plan.

5.1.4 South West Industrial Land Study (2010)

The South West Industrial Land Study (SWILS) is a joint initiative involving the departments of Planning, State Development and Agriculture and Food; LandCorp; and South West Development Commission. The study will guide the future of industrial land supply in the South-West region during the next 20 years. While the region offers sufficient industrial land suitable for both heavy, general and light industries to meet short-term demand, supply is expected to diminish in the medium to long term. The study will offer valuable insight to ensure an optimum supply of suitable industrial land - heavy, light general and special is available and appropriately zoned to meet long-term demand. The rationale for the study is to ensure that adequate supply is available to provide for the population growth.

Refer to Figure 7 - South West Region Industrial Land Study – Key Regional / State Linkages

The SWILS sets the planning framework for the general and light industry land requirements and needs to be implemented accordingly so as to protect the KSIA from encroachment by general or light industry uses. It is expected that a small number of uses for general and light industry may need to be located within the KSIA to provide adequate on site services to the strategic industry operators.

The SWILS established that the key influence on the development of KSIA as a site for strategic and special industries was the ability to provide highly serviced (particularly freight and power), project ready, large, flat sites as unencumbered by constraints as possible. The study concluded that KSIA was otherwise ideally placed in terms of proximity to port (containerisation potential) and labour supply.

The main heavy strategic growth industries with land requirements were identified as those associated with mineral extraction and natural resources, advanced processing and refining (nano technologies) and some associated manufacturing in the Bunbury-Wellington sub-region. Resource extraction and renewable energy industries emerging in the surrounding sub-regions of Vasse and warren-Blackwood may also increase demand

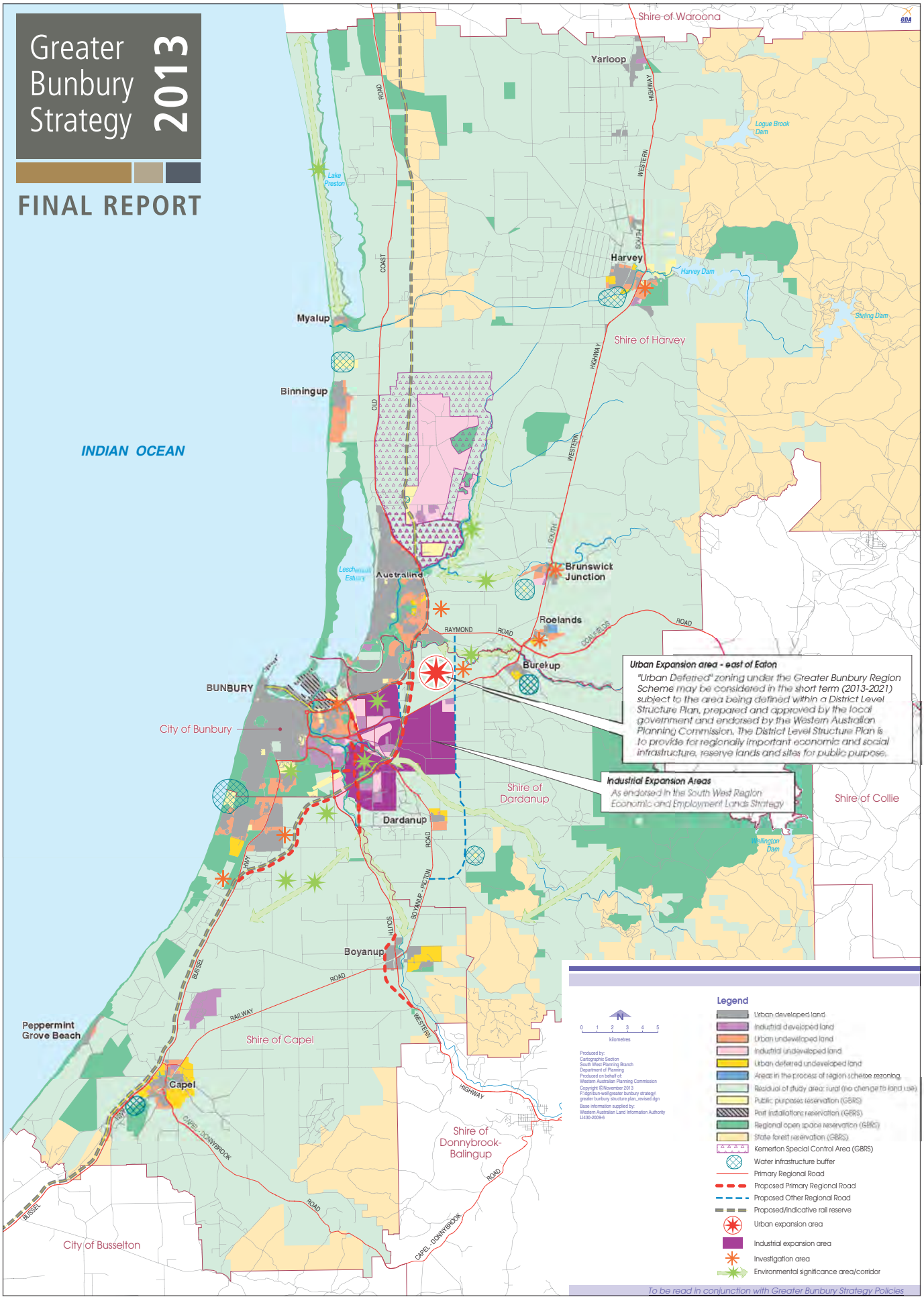


Figure 6 Greater Bunbury Strategy 2013

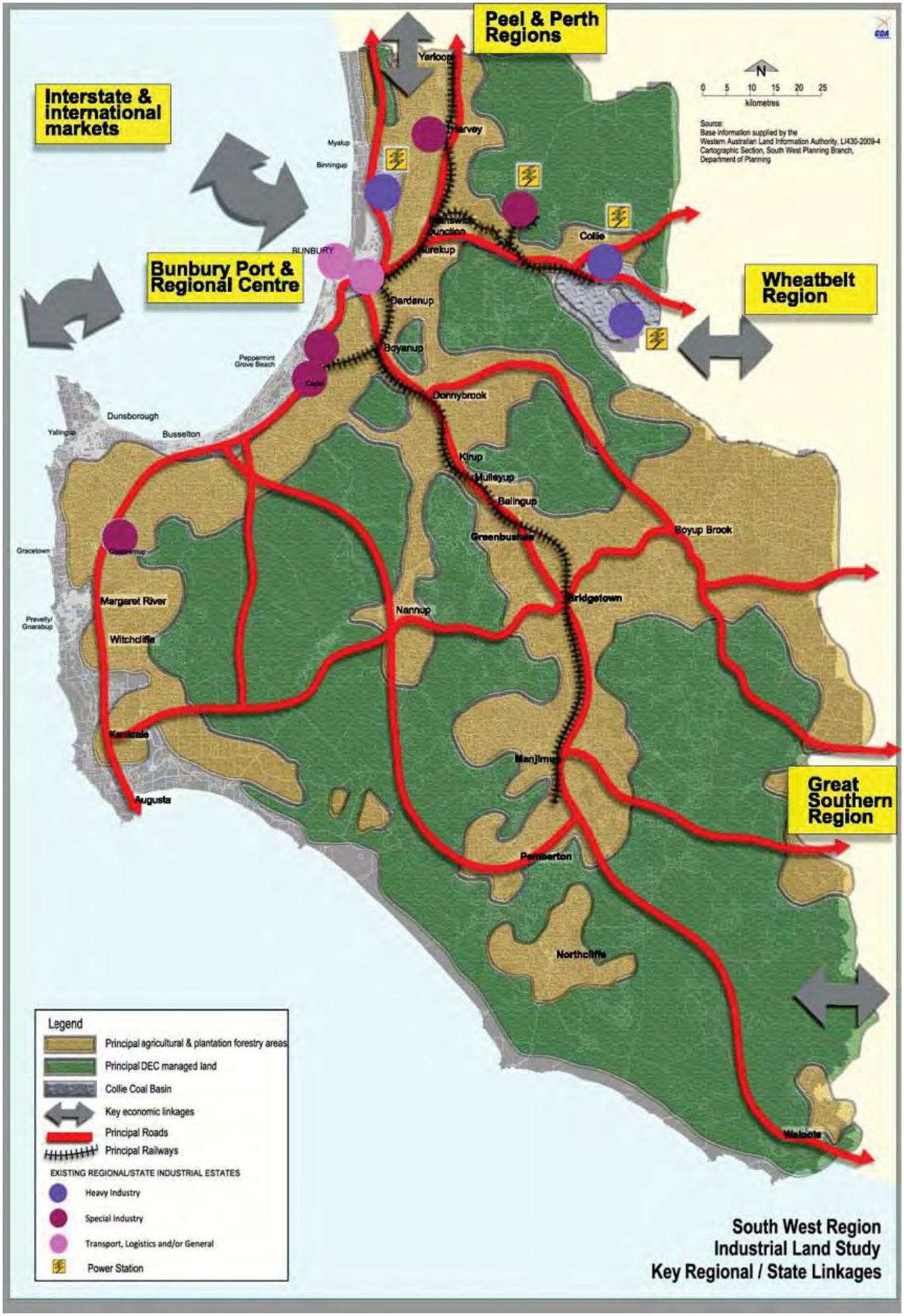


Figure 7 South West Region Industrial Land Study – Key Regional/State Linkages

for land at KSIA. It was also entirely possible that there would also be spin –off from special industries in high technology, agriculture, waste and resource recycling and construction.

The SWILS study concluded that under a regional economic growth scenario of 3-4% and the ongoing development of the inherent regional economic assets including containerisation of the Bunbury Port and successful attraction of large strategic industries under the DSD strategy, that the existing 'developable' land supply at KSIA could be consumed within or at least allocated a use even if not fully developed and occupied, within 5-10 years.

5.1.5 Industry 2030 – Greater Bunbury Industrial Land and Port Access (2000)

This strategy document referred to as "Industry 2030" was adopted by the WAPC and the State Government in 2000 as the planning response to the industrial land and port access needs of the Greater Bunbury region over the next 30 years and beyond. The strategy combines planning for the Kemerton Expansion Study and the Preston Industrial Park area with the Bunbury-Kemerton Transport (Rail) Corridor Study and the Bunbury Port Access Road concept report.

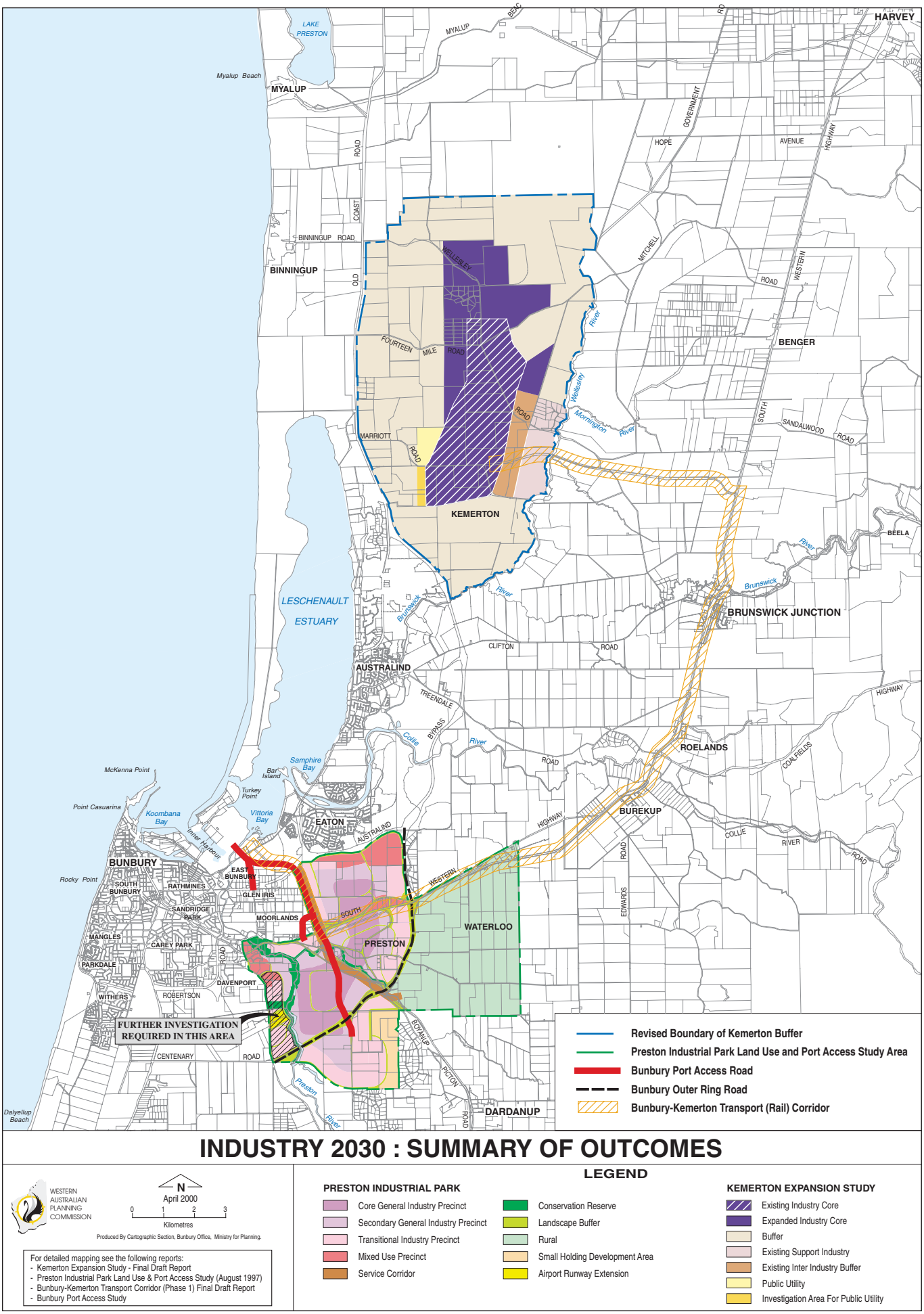
Refer to Figure 8 – Industry 2030

South West Regional Blueprint (2014)

The objective of the South West Regional Blueprint (SWRB) is to build prosperity through jobs and population within the South West region. Prepared by the South West Development Commission and Regional Development Australia, the visionary document identifies the KSIA as a strategic industrial area which shall play an important role in ensuring the availability of strategic industry land in the region. The following priorities of the SWRB relate to the KSIA:

Regional Priorities	Objectives	Actions
• Land for industry • Create sufficient land to generate employment across industry sectors.	• Sufficient land is set aside for industry needs to 2050.	• Within 1-3 years complete structure planning for Kemerton, Shotts and Preston industrial land areas. Within 3-15 years, provide a rail link to the Kemerton Industrial Park. • Provide reticulated industrial water supply and waste water treatment to Kemerton.
• Water security • Ensure the South West has long term water security for agriculture, industry and domestic purposes.	• Collie-Kemerton water management • Distribute surplus saline water from the upper Collie to industrial centres including Worsley and Kemerton.	• Government and industry construct the Collie to Kemerton ocean saline water pipe and holding dam.
• Ready export/ import hubs supported by safe, efficient interconnected transport networks • The South West is connected to national domestic and international road, rail, sea and air routes. • Ensure the region's hubs are capable of supporting export and import growth both in the South West and Perth metropolitan area.	• Bunbury Port • Expand Bunbury Port to meet South West and State export/ import needs for bulk cargoes, container cargoes and roll-on roll-off cargo including refrigerated and food grade cargo • Construct road and rail linkages to the Bunbury Port capable of meeting export growth and distributing on a national scale	• Build Kemerton rail freight link to Bunbury Port. • Complete construction of Forrest Highway to freeway standard. • Improve South West Main Railway Line to increase axle loads and crossing loop extensions.

The KSIA Structure Plan responds directly to the first priority of the SWRB where the Structure Plan will be progressed and implemented to facilitate the supply of industrial land.



INDUSTRY 2030 : SUMMARY OF OUTCOMES

WESTERN AUSTRALIAN PLANNING COMMISSION

N

April 2000

0 1 2 3 Kilometres

Produced By Cartographic Section, Bunbury Office, Ministry for Planning.

For detailed mapping see the following reports:
- Kemerton Expansion Study - Final Draft Report
- Preston Industrial Park Land Use & Port Access Study (August 1997)
- Bunbury-Kemerton Transport Corridor (Phase 1) Final Draft Report
- Bunbury Port Access Study

LEGEND

PRESTON INDUSTRIAL PARK

- Core General Industry Precinct
- Secondary General Industry Precinct
- Transitional Industry Precinct
- Mixed Use Precinct
- Service Corridor
- Conservation Reserve
- Landscape Buffer
- Rural
- Small Holding Development Area
- Airport Runway Extension

KEMERTON EXPANSION STUDY

- Existing Industry Core
- Expanded Industry Core
- Buffer
- Existing Support Industry
- Existing Inter Industry Buffer
- Public Utility
- Investigation Area For Public Utility

Figure 8 Industry 2030

5.2 Statutory Planning Framework

5.2.1 Greater Bunbury Region Scheme

The Greater Bunbury Region Scheme (GBRS) is a statutory region scheme administered by the WAPC. The KSIA is subject to the overarching provisions of the GBRS. Planning controls for the KSIA are reflected in the GBRS in the following manner:

- The 'Kemerton Strategic Industry' zone of the Structure Plan and DPS1 (as amended) is included in an 'Industrial' zone;
- The 'Kemerton Industry Buffer' zone area of the Structure Plan and the Shire of Harvey DPS1 (as amended) is included in a 'Rural' zone with a 'Special Control Area No. 2 (SCA No. 2)' designation applied over it. Under the GBRS, "SCA No. 2 will ensure that development within the special control area does not prejudice the use of the Kemerton Core for industrial purposes, and local government in considering development applications within the area will be required to have due regard to the purpose of the "SCA No. 2".

Within SCA No.2 development proposals are considered and determined by the WAPC in the context of compatibility with industry operations within the KSIA. The GBRS specifically provides that in considering applications for planning approval, the WAPC is to have regard to:

- whether the proposal is compatible with any existing or proposed future use or development within the KSIA;
- any other relevant planning and environmental considerations including, but not limited to, provisions of the State Planning Framework; and
- recommendations of the chief executive officer of the department principally assisting in the administration of the *Mining Act 1978* and the chief Executive officer of the environmental protection department.

The following uses are not permitted in SCA No. 2:

- residential accommodation including single residential dwellings and grouped dwellings;
- hospitals;
- schools; institutional or other uses involving residential accommodation, including temporary, short stay or holiday accommodation; and
- general noxious, hazardous and light industry uses as defined in State Planning Policy 4.1: State Industrial Buffer Policy.

5.2.2 Shire of Harvey District Planning Scheme No. 1 (DPS1)

The KSIA is subject to the provisions of the Shire of Harvey District Planning Scheme No.1 (DPS1), where four zones currently apply:

- Kemerton Park Industry (Heavy);
- Kemerton Ancillary Industry;
- Kemerton Buffer; and
- Inter Industry Buffer.

5.2.2.1 Kemerton Park Industry (Heavy)

Under DPS1 the intent of the existing Kemerton Park Industry (Heavy) zone is to accommodate strategic heavy industrial development which is sufficiently separated from sensitive land uses, and meets the environmental development and operational criteria of the Environmental Protection Authority and the Local Government.

5.2.2.2 Kemerton Ancillary Industry

The Kemerton Ancillary Industry zone is intended to be developed as a support area to the heavy industry zone. Proposed development must demonstrate that the major portion of the source material, finished product, or services provided are oriented within the KSIA area.

5.2.2.3 Kemerton Buffer

The primary purpose of this zone is to serve as a low intensity use area between the Kemerton Heavy and Ancillary Industry zone and the surrounding land uses. No further residential or incompatible development shall take place in this zone and where possible public recreation and flora and fauna conservation shall be encouraged.

5.2.2.4 Inter Industry Buffer

DPS1 states that the primary purpose of this zone is to provide a low intensity use zone between the Kemerton Heavy Industry and Ancillary Industry zones.

5.2.2.5 Proposed Local Scheme Amendment No.114

Amendment No.114 to DPS1 seeks to:

- Update the DPS1 map so that it aligns with the GBRS;
- Rationalise the existing number of zones applied to the subject site from four to three zones by incorporating the land currently zoned 'Kemerton Inter-Industry Buffer' into the 'Kemerton Industry Buffer' zone;
- Remove existing policy statements and schedules relating to the Kemerton Industrial Park, which shall be replaced by the proposed KSIA Structure Plan;
- Align the DPS1 use class table with those land uses listed within the GBRS and the intentions of the Kemerton Strategic Industry and Industry Buffer zones; and
- Add and amend DPS1 textual provisions to provide clarity regarding the intent of the KSIA and the assessment process for planning applications.

In order to assist in protecting the development and operation of the KSIA, additional controls are to be introduced as part of an amendment to DPS1. These new provisions include:

- Clarification regarding the prohibition of sensitive uses being developed within the buffer area; and
- Clarification regarding the referral of development applications to the government agencies for comment, including DSD and LandCorp.

The Structure Plan has applied the zones proposed under Amendment No.114 as part of this documentation, as the intended ultimate configuration. These are:

- Kemerton Strategic Industry zone;
- Kemerton Ancillary Industry zone; and
- Kemerton Industry Buffer.

It is evident that the majority of the land located within the existing Kemerton Inter Industry Buffer zone of DPS1 is constrained from future development due to the existing environmental assets through this area.

This includes a string of Resource Enhancement and Conservation category wetlands, including EPP 1992 SCP Lakes Register boundaries. Therefore there is some uncertainty regarding the viability of developing within this buffer area. This zone is therefore proposed to be deleted as part of the local scheme amendment, and the land be included as part of the broader Kemerton Industry Buffer zone.

5.2.3 Environmental Assessment and Approvals History

Formal advice and recommendations from the Environmental Protection Authority (EPA), specific to the KSIA, has only been issued in regard to the GBRS and Industry 2030 through EPA Bulletins 902, 1108 and Ministerial Statement No.697. These are discussed in the following headings.

5.2.3.1 EPA Bulletin 902

The WAPC's Industry 2030 document (which sought an increase in the industrial core area of the KSIA to 2106 ha was the subject of section 16(j) advice by the EPA under the *Environmental Protection Act 1986* (*EP Act)*, with the following recommendations made specifically in regard to the Kemerton Expansion Study component of the Industry 2030 document (EPA Bulletin 902; August 1998):

The EPA advises that the following modifications should be made to the Structure Plan in order to adequately protect the environment:

- *the western boundary of the industrial expansion area should be modified to provide an appropriate buffer distance to the adjacent EPP Lakes (Mialla Lagoon);*
- *land to be ceded to the Crown for conservation purposes by Kemerton Silica Sand Pty Ltd in accordance with the Minister's environmental conditions (Bulletin 741) should be shown as Conservation on the Structure Plan; and*
- *the Structure Plan should be modified to protect vegetation of regional significance pending the outcome of vegetation survey in the Kemerton area.*

The EPA also advises:

- *prior to finalisation of the Structure Plan a vegetation survey should be conducted in the Kemerton area, on advice of the EPA, to determine the extent of regionally significant vegetation; and*
- *prior to finalisation of the Structure Plan, criteria for water management (including water supply) and a drainage management plan should be adopted due to the high water table and presence of significant wetlands and watercourses adjacent to the proposed industrial core. The criteria should aim to protect water levels and water quality in important wetlands and protect water quality in Wellesley River.*

A range of other issues associated with the KSIA were discussed in EPA Bulletin 902 including buffer requirements for noise, air quality and risk; protecting regionally significant wetlands, watercourses and vegetation; maintaining a sustainable groundwater balance; protecting water quality in Wellesley River and Leschenault Inlet; solid and liquid waste disposal; and transport corridor locations. A number of these issues were deferred for assessment at the subsequent statutory planning stages.

EPA Bulletin 902 also outlined that it was expected that the proposed Bunbury Region Scheme, future town planning schemes, any amendments to these schemes and specific project proposals will incorporate the EPA's advice contained in the report and undertake the recommended studies. Future schemes and projects would also need to be assessed by the EPA pursuant to the provisions of the EP Act.

5.2.3.2 EPA Bulletin 1108 and Ministerial Statement No.697

The GBRS was referred to the EPA under the *EP Act* by the WAPC in August 1996. The EPA decided to formally assess (under s48A of the EP Act) the new land use zones and reserves proposed by the GBRS, being those zones and reserves that differ from the zone or reserve shown in an existing town planning scheme for the subject land. The progress of this assessment was delayed by the Kemerton Expansion Study and Industry 2030 document, with the EPA Bulletin 1108 on the GBRS not being issued until September 2003.

The two areas of the EPA Bulletin 1108 that particularly relate to the KSIA include the Kemerton Industrial Park Expansion and SCA No. 2 – Kemerton Industrial zone Buffer. The Bulletin outlines the EPA's position that:

- the Kemerton Industrial Expansion Area and SCA No. 2 can be managed to meet the EPA's objectives provided a condition is imposed on the GBRS requiring that prior to subdivision or development being approved, whichever comes first, within the Kemerton Industrial Area or the SCA No. 2 an Environmental Management Plan is to be prepared and implemented to manage the potential impacts of the subdivision or development on remnant vegetation, wetlands, fauna and visual amenity;
- areas of regionally significant bushland within SCA No. 2 should be reserved as Regional Open Space (ROS) as a future amendment to the GBRS;
- SCA No. 2 provides adequate separation between proposed industrial development and surrounding land uses to accommodate the impacts of noise and air quality in accordance with the EPA's environmental objectives and criteria for these environmental factors;
- the environmental factors noise, air quality, remnant vegetation, groundwater quality, surface water quality and solid/liquid waste disposal should be deferred until the land is subdivided and/or developed for industrial purposes so that the EPA can conduct a detailed environmental assessment pursuant to Part IV of the EP Act.

This advice is reflected in Ministerial Statement No 697, subsequently issued on 31 October 2005 for the GBRS, which outlines the requirements for various management plans for the KSIA.

5.2.3.3 Commonwealth Assessment

The KSIA has not been referred or considered under the *Environment Protection and Biodiversity Conservation Act 1999* (*EPBC Act)* either strategically, as a plan for an industrial park, or as an overall industrial project. As such, no overall Commonwealth approval applies to development within the KSIA.

Environmental Management Plans may be required in accordance with the specifications set out in the Minister for the Environment's "Statement that a Scheme may be Implemented" No. 000697 published on 31 October 2005, and shall be subsequently implemented in accordance with the provisions of the Management Plans, to the satisfaction of the WAPC. Refer to Section 13.2 for further information.

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6. Site Conditions

6.1 Biodiversity and natural area assets

Numerous biological surveys have been undertaken within and surrounding the KSIA in the past. A list of the 18 biological surveys is provided in section 3 of the Overarching Environmental Plan (ELA,2014), refer to Appendix C.

The most recent survey undertaken at the KSIA was conducted by Eco Logical Australia in 2014 and focused on threatened flora, vegetation and Black Cockatoo values. The following sections which describe the existing environmental values have been summarised from these previous survey reports.

Refer to Appendix C - Overarching Environmental Management Plan

6.1.1 Vegetation

Seven vegetation communities have been identified as occurring within the site, including three wetland communities. Two Priority Ecological Communities (PECs) and one Threatened Ecological Community (TEC) have been identified as occurring within the site:

- Southern Swan Coastal Plain Eucalyptus gomphocephala – Agonis flexuosa woodlands (PEC), represented by vegetation communities EgAf and EmEdAf. The degraded areas of EgAf were not considered to be extant occurrences of the Southern Swan Coastal Plain Eucalyptus gomphocephala – Agonis flexuosa woodlands PEC due to the poor vegetation condition and were mapped as such.
- Low lying Banksia attenuata woodlands or shrublands (PEC), represented by vegetation communities EmCcBa and BaBiKg.
- Shrublands and Woodlands on Muchea Limestone of the Swan Coastal Plain (TEC).

Refer to Figure 9 – Vegetation Communities

The majority of the vegetation within the site is mapped as being in excellent condition (approximately 40%) and nearly a third is mapped as completely degraded (*Refer to Figure 10 - Condition of Vegetation Communities*). The remainder of the vegetation is mapped as mainly very good condition, with smaller areas in good or degraded condition, or are mapped as plantations. Areas mapped as being in excellent condition mostly coincided with vegetation community boundaries in the northern, southern and western portions of the site. Degraded or completely degraded areas mainly occurred on the outside edges of the Buffer, generally coinciding with parklands and other cleared areas.

Substantial areas of the vegetation communities present in the Buffer have been historically cleared from the Swan Coastal Plain. As such, the presence of these contiguous and excellent/very good/good condition vegetation communities in the Buffer is significant as they support a range of habitat types for flora and fauna species. In addition, the two PECs occurring in the site are not well represented outside of National Parks and Conservation Reserves (Coffey 2007).

6.1.2 Flora

A total of five Threatened flora species (all orchids) are known to occur within the site (ELA, 2014):

- Caladenia procera1 (EPBC Act: Critically Endangered, WC Act: Threatened)
- Diuris drummondii (EPBC Act: Vulnerable, WC Act: Threatened)
- Diuris micrantha (EPBC Act: Vulnerable, WC Act: Threatened)
- Drakaea elastica (EPBC Act: Endangered, WC Act: Threatened)
- Drakaea micrantha (EPBC Act: Vulnerable, WC Act: Threatened).

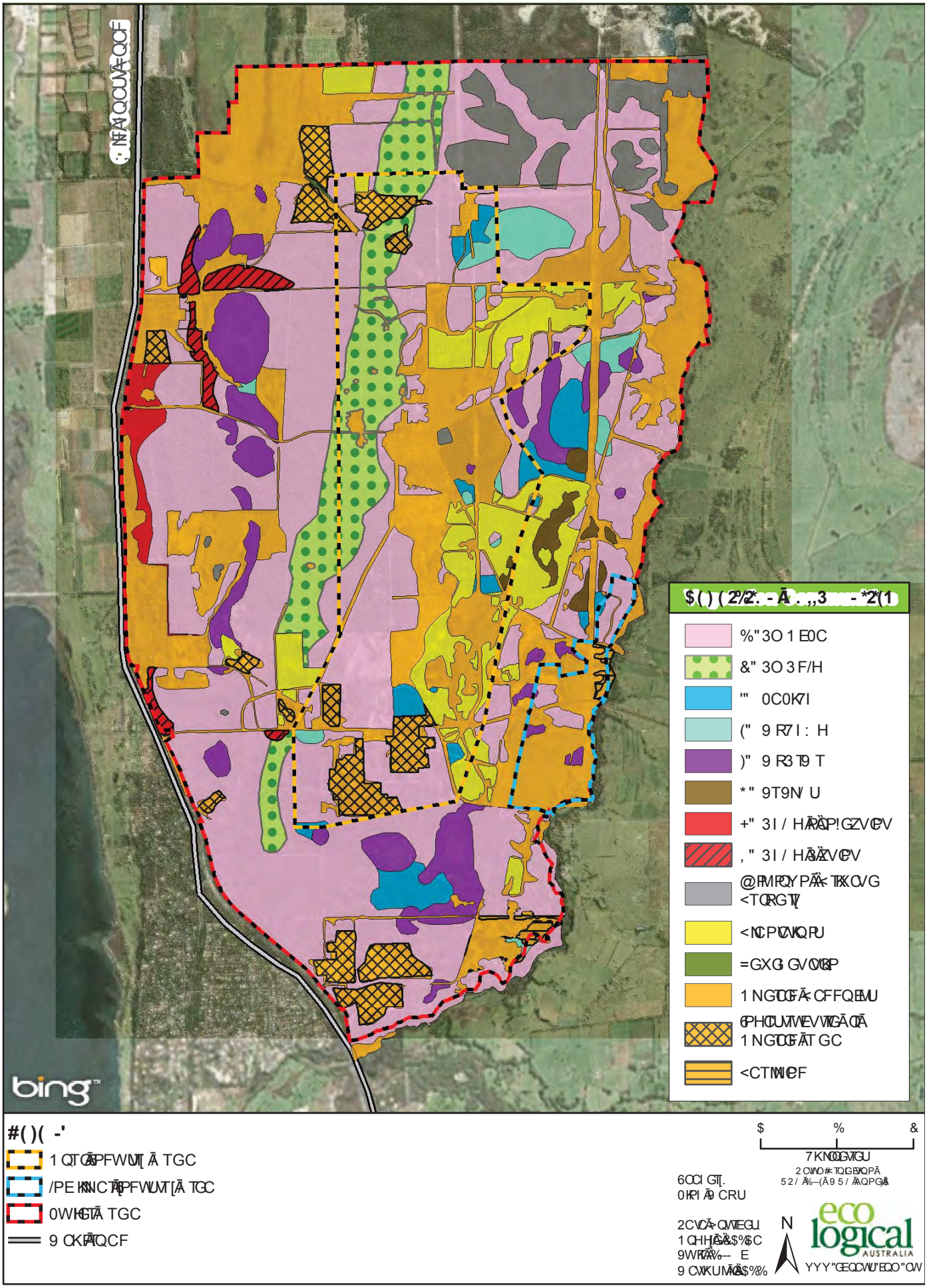


Figure 9 Vegetation Communities

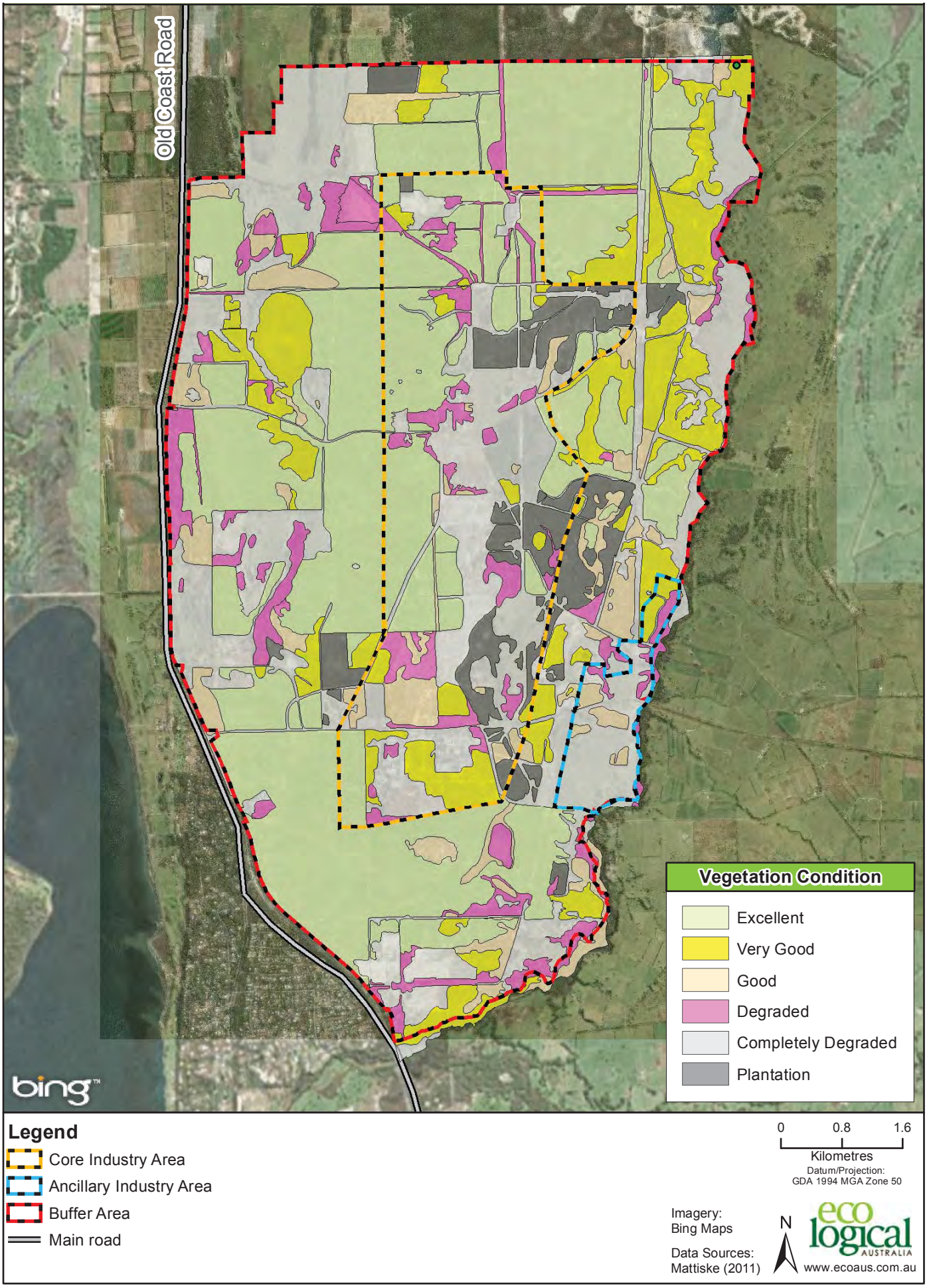


Figure 10 Condition of Vegetation Communities

One additional Threatened flora species; Caladenia huegelii (EPBC Act: Endangered, WC Act: Threatened) could potentially occur within the site as it has been recorded approximately 3 kilometres south-west of the site along the Leschenault Estuary (DEC 2012).

The following eight Priority flora species are known to occur within the site:

- Boronia juncea subsp. juncea (Priority 1)
- Dillwynia dillwynioides (Priority 3)
- Lasiopetalum membranaceum (Priority 3)
- Acacia semitrullata (Priority 4)
- Acacia flagelliformis (Priority 4)
- Caladenia speciosa (Priority 4)
- Microtis quadrata (Priority 4)
- Pultenaea skinneri (Priority 4).

Refer to Figure 11 – Significant Flora Locations

6.1.3 Terrestrial Fauna

A total of 103 species of vertebrate fauna including 56 birds, 10 mammals, 21 reptiles, five frogs and six introduced species have been recorded at the KSIA. A total of 10 conservation significant fauna species listed under the *EPBC Act* and/or the *WC Act* have been recorded within the site:

- Carnaby's Black Cockatoo (Calyptorhynchus latirostris) (EPBC Act: Vulnerable, WC Act: Schedule 1)
- Baudin's Black Cockatoo (Calyptorhynchus baudinii) (EPBC Act: Vulnerable, WC Act: Schedule 1)
- Forest Red-tailed Black Cockatoo (Calyptorhynchus banksii naso) (EPBC Act: Vulnerable,WC Act: Schedule 1)
- Chuditch (Dasyurus geoffroii) (EPBC Act: Vulnerable, WC Act: Schedule 1)
- Rainbow Bee-eater (Merops ornatus) (EPBC Act: Marine, Migratory, WC Act: Schedule 3)
- Fork-tailed Swift (Apus pacificus) (EPBC Act: Marine, Migratory)
- Cattle Egret (Ardea ibis) (EPBC Act: Marine, Migratory)
- Southern Brush-tailed Phascogale (Phascogale tapoatafa sp. tapoatafa) (WC Act: Schedule 1)
- Southern Carpet Python (Morelia spilota imbricata) (WC Act: Schedule 4)
- Peregrine Falcon (Falco peregrina) (WC Act: Schedule 4).

One additional conservation significant fauna species has the potential to occur; the Western Ringtail Possum (Pseudocheirus occidentalis), as populations of this species are known to occur nearby and there is suitable habitat available.

A total of four Priority fauna species have been recorded within the site:

- Perth Lined Lerista (Lerista lineata) (Priority 3)
- Western Brush Wallaby (Macropus irma) (Priority 4)
- Western False Pipistrelle (Falsistrellus mackenziei) (Priority 4)
- Quenda (Isoodon obesulus fusciventer) (Priority 5).

Potential habitat occurs within the site for the Barking Owl (Ninox connivens connivens) (Priority 2) and the Masked Owl (Tyto novaehollandiae novaehollandia) (Priority 3), however, these two species have not been recorded.

6.1.4 Black Cockatoos

Foraging evidence of all three Black Cockatoo species has been observed within the site and was recorded at 76 locations during the most recent survey, comprising chewed Banksia, Jarrah, Marri and Pinus (Pine) cones (ELA 2014). Black Cockatoos were also observed opportunistically within the site during the ELA (2014) survey at 19 locations. These records include Forest Red-tailed Black Cockatoos feeding on Jarrah and Marri, and Carnaby's Cockatoos flying in small to medium sized flocks through the site.

Due to the range of land use practices and vegetation condition, foraging and potential breeding habitat for Black Cockatoos within the site is highly variable. However, high quality habitat is extensive within the Buffer and Core due to a number of vegetation communities being dominated by Eucalyptus and Banksia species. Many potential breeding trees recorded during the ELA (2014) survey (particularly Marri, Jarrah and Tuart) within the site had hollows considered to be potentially suitable for Black Cockatoo breeding, although no signs of nesting or breeding behaviour were observed.

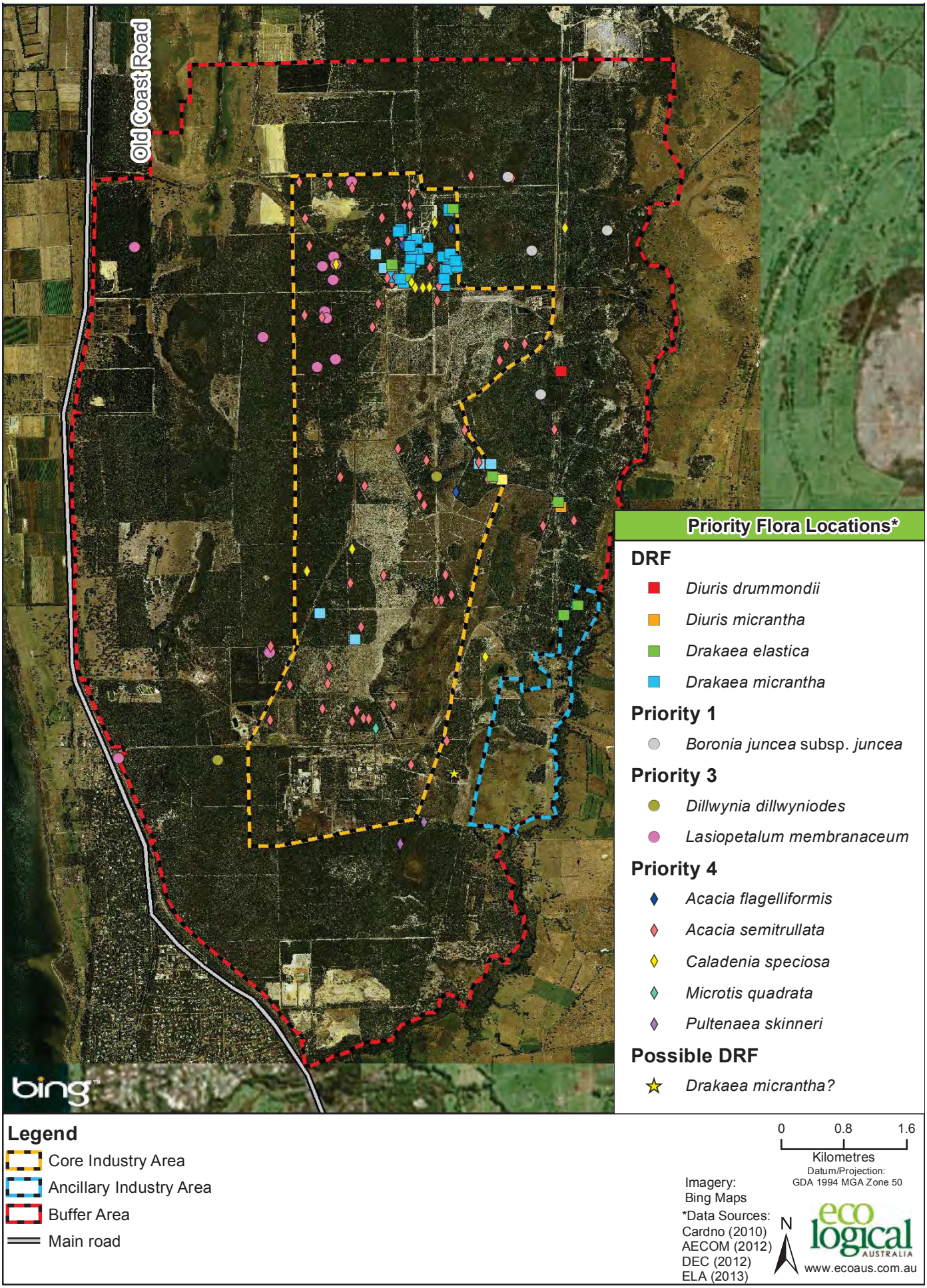


Figure 11 Significant Flora Locations

6.2 Landform and Soils

6.2.1 Topography

The topography across the Strategic Industry zone and Ancillary Industry zone generally slope downwards in a south-easterly direction from a dunal ridge in the west to the Wellesley River in the east.

The dunal ridge is situated along the western and northern boundaries of the Strategic Industry zone, with heights varying from 15.0m to 20.0m AHD between dunes to approximately 45.0 to 50.0m AHD at the crest of dunes. Levels grade down quickly on both sides of the dunal ridge leaving the majority of the Strategic Industry zone and Ancillary Industry zone with a relatively level topography of approximately 12.0 to 16.0m AHD, with isolated areas undulating up to approximately 20.0m AHD (Source: Wood and Grieve 2014).

Along the eastern boundary of the site, the central-eastern and north-eastern areas remain fairly level at approximately 14.0m to 16.0m AHD. Along the south-eastern boundary adjacent to the Wellesley River, levels slope rapidly down from approximately 12.0m to 16.0m AHD on the plain to approximately 6.0m to 8.0m AHD at the river's edge.

Refer to Figure 12 - Topography

6.2.2 Soils

The underlying geology consists of superficial sands resting on the Leederville Formation which overlies the Yarragadee Formation and/or the Cattamarra Coal Measures. According to Wood and Grieve (2014) the profile of the superficial formation generally comprises topsoil overlying sand with sub-surface conditions varying across the site, including Tamala Limestone in the west transitioning to Bassendean Sand, Guildford Formation, Swamp Deposits and Alluvium adjacent to the Wellesley River in the east. There is a noticeable variation in lithology both vertically and laterally, and the thickness ranges from about 20m to 50m.

The Leederville Formation consists of sandstone, siltstone and shale and extends across most of the Coastal Plain. The formation is divided into an upper sandy section and a lower section which is predominantly shale.

The Yarragadee Formation underlies the Leederville formation in the southern part of the site and consists predominantly of sandstone. The Cattamarra Coal Measure lies unconformably beneath the Leederville formation in the central to northern areas of the KSIA and underlies the Yaragadee Formation in the south. The formation consists of weakly cemented quartz sandstone and weakly consolidated siltstone and shale.

6.2.3 Acid Sulphate Soils

The Landgate WA Atlas Acid Sulfate Soils (ASS) Risk Mapping for the KSIA indicates that the majority of the site has a "moderate to low risk" of ASS being present in the surface soils. Isolated areas of "high to moderate risk" of ASS associated with Swamp Deposits and Alluvium soils occur across the site. Soils along the western extent of the Core associated with Tamala Limestone areas are mapped as "no known risk" of ASS.

Prior to development proceeding, further detailed investigation will be carried out to better assess the location, extent and severity of potential acid sulfate soils across the site. If the site is found to contain ASS which may be disturbed by the development, an Acid Sulfate Soils and Dewatering Management Plan (ASSDMP) will be required to address the specific management and treatment of potential ASS and resulting dewatered effluent during the construction phase of the project.

6.2.4 Geotechnical Investigations

Douglas Partners were commissioned to undertake a geotechnical investigations across the Strategic Industry zone and Ancillary Industry zone portions of the site. The results of this are summarised below, with the full report attached at Appendix D - Civil Servicing and Engineering Report.

The soil profile encountered in the boreholes during site investigations generally comprised of topsoil overlying sand. Some exceptions to this profile were encountered including silty sand, peaty sand, clayey sand, coffee rock and fibrous root material.

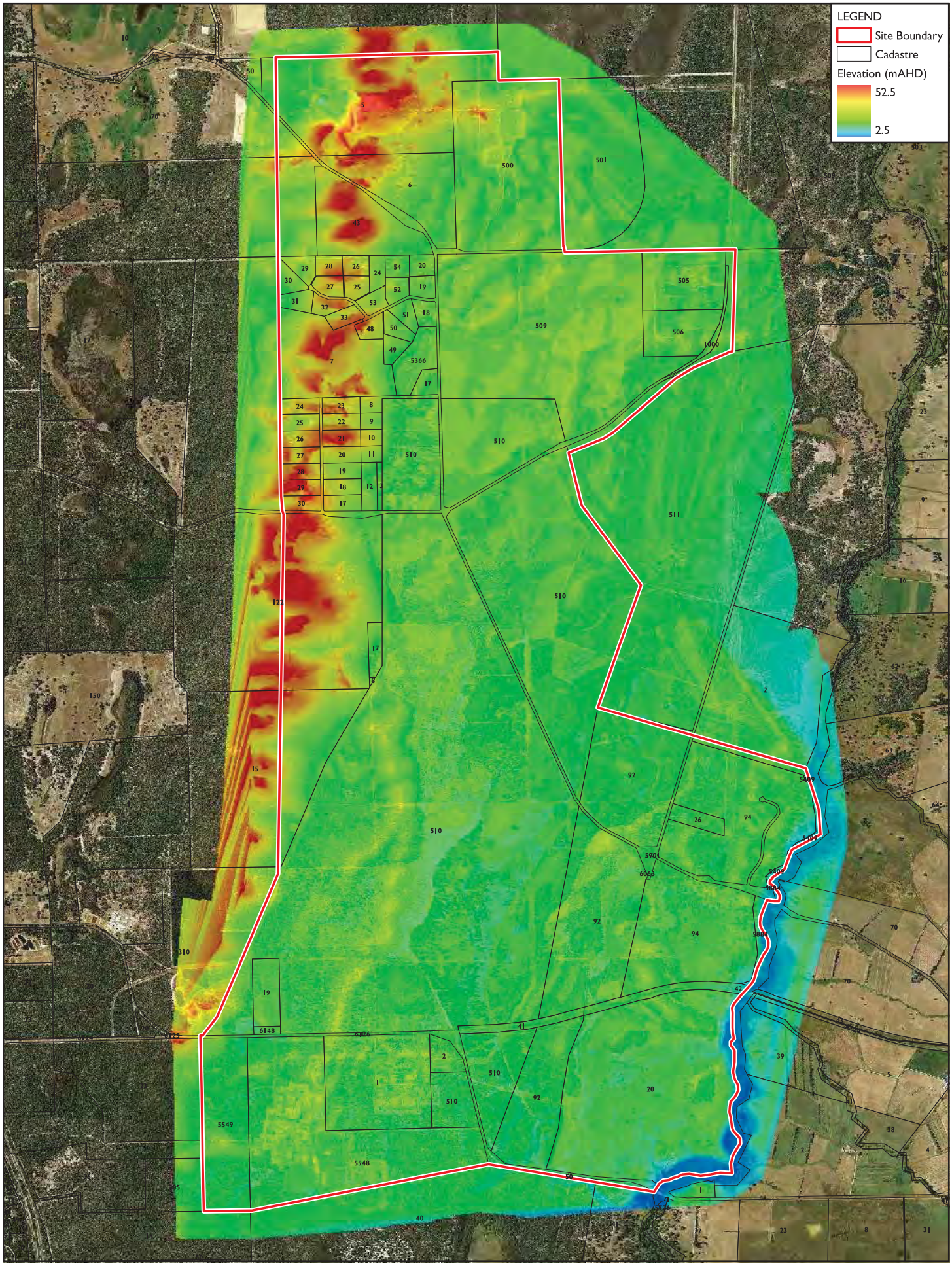


Figure 12 Topography

The site classification in accordance with AS 2870-2011 for most of the site was found to be Class A, with some areas Class P and Class S. It is likely that some Class M and Class H areas may be found within the Guilford Formation and Alluvium areas. With some minor areas of earthworks remediation, it is likely that the majority of the development should be able to achieve a site classification of 'A'.

Douglas Partners have provided the following site preparation and earthworks recommendations for all building envelopes and pavement areas:

- Removal of deleterious material including topsoil, vegetation and tree roots;
- Removal of peaty material and replacement with suitable structural fill;
- Proof compaction of exposed subgrade areas including, where necessary, removal of material in areas showing excessive deformation and replacement with suitable compacted structural fill;
- Naturally occurring sand excavated from the site should generally be suitable for re-use as structural fill, and should be compacted in layers of not more that 300mm;
- Areas should be compacted to achieve a dry density ratio of not less than 95% relative to modified compaction; and
- Re-compaction of top 300mm using a vibratory plate compactor in all foundation excavations, prior to construction of any footings.

6.3 Groundwater and Surface Water

6.3.1 Groundwater

The groundwater in the KSIA subareas is divided into four distinct groundwater resources based on the hydrogeology of the:

- Superficial aquifer;
- Leederville aquifer;
- Yarragadee aquifer; and
- Cattamarra Coal Measures aquifer.

A range of groundwater monitoring programs have been completed at the KSIA and are detailed in the Overarching Water Management Strategy prepred by RPS Environmental contained in Appendix F. The groundwater mapping of the AAMGLs indicates that the average maximum groundwater level is at approximately 6 m AHD to 14 m AHD, which represents groundwater generally being 40 m below ground level (bgl) at the ridge and 0 to 5 m bgl through the central to east of the site.

Nutrient concentrations have been found to vary considerably across the site with higher levels associated with the agricultural areas with lower clearance from groundwater. Concentrations across the site were generally moderate but higher than the reference values outlined in ANZECC (2000) for wetland ecosystem protection.

The existing prescribed industrial sites located in the KSIA, are required to provide Annual Environmental Reports, which amongst other topics includes a discussion of the onsite monitoring data. The 2010 Millennium Inorganic Chemicals Annual Environmental Report shows through a series of hydrographs that the groundwater levels beneath the Plant have been declining since 1994 which is attributed to the low rainfall and recharge occurring in the south west region.

6.3.1.1 Groundwater Management Areas and Allocations

The KSIA extends across two DoW Groundwater Management Areas, being the South West Coastal in the north and the Bunbury Groundwater Management Area in the South. Groundwater in the KSIA area is currently used for industry, agriculture and public water supply.

A recent (Nov 2014) Groundwater Allocation Report was obtained by RPS Environmental from the Department of Water (DOW) to confirm the volumes of water currently available from the DoW for allocation. This report indicates that a total allocation of 9.787 GL is currently available from the groundwater management areas at the KSIA. Three GL of groundwater still remains available in the Cattamarra Coal Measures in KSIA South.

Further investigations into the required quality of water for industrial use and possible treatment options need to be investigated, along with drilling of the aquifers in order to accurately establish the availability and quality of groundwater in each Aquifer.

6.3.1.2 Wellesley River

The main surface feature in the vicinity of the KSIA is the Wellesley River, located outside the eastern and south eastern boundaries of the KSIA. The River flows in a south-westerly direction into the Brunswick River which then merges with the Collie River prior to discharging into the Leschenault Inlet to the south-west.

Due to its low topography and deep, well drained sands, there is limited natural surface water drainage within the KSIA. A number of artificial drains have been constructed to drain the Multiple Use wetlands and inundated palusplain areas. These drains generally flow to the east and south discharging to the Wellesley River.

6.3.1.3 Leschenault Estuary

The Leschenault Estuary is located approximately 1 km east of the Buffer and approximately 2.5 km from the most eastern extent of the Strategic Industry zone.

The Leschenault Estuary is a shallow, elongated water bogy lying roughly north south and separated from the Indian Ocean by a sand dune peninsula. The Estuary is approximately 13.5 km long, up to 2.5 km wide and has a surface area of approximately 25 km^2. The Leschenault water catchment encompasses the Wellesley, Brunswick, (lower) Collie, Ferguson and Preston River sub catchments.

6.3.1.4 Wetlands

According to the Overarching Water Management Strategy approximately 43 geomorphic wetlands (or part thereof) are located within the Kemerton Strategic Industry zone. Ten are classified as Conservation category wetlands, 4 are Resource Enhancement wetlands and 29 are Multiple Use wetlands.

There are 5 wetlands (or part thereof) located within the Kemerton Ancillary Industry zone area, including 1 Resource Enhancement wetland and 4 Multiple Use wetlands.

None of the wetlands located within the Kemerton Strategic Industry zone or Kemerton Ancillary Industry zone are protected by the South West Agricultural EPP. All wetlands protected by the Lakes EPP are contained within the Buffer zone or reserved as Regional Open Space.

Refer to Figure 13 – Rivers and Geomorphic Wetlands

The majority of the wetlands within the KSIA are groundwater-dependent ecosystems, many of which are maintained by perched water tables and supported by surface runoff and direct rainfall. Drainage within the KSIA occurs at regional and local scales. Regionally, surface water drains towards the Wellesley River on the KSIAs eastern boundary, and locally, due to its low topography and relatively high water tables, surface water within the KSIA drains into the ephemeral wetlands.

6.3.1.5 Wetland Buffers

It has been State Government policy that Conservation Category Wetlands should have buffers at least 50m wide and Resource Enhancement Wetlands should have buffers between 30-50m. This buffer width is a guideline and its adequacy or otherwise is determined based on site characteristics and other factors such as the presence of Declared Rare Flora (DRF) or priority listed species, a wetland's geographical configuration, association with other wetlands, quality of vegetation within the wetland buffer, surrounding land use threats, and management strategies for the wetland.

There are a number of Conservation Category Wetlands and Resource Enhancement Wetlands located within the Kemerton Strategic Industry zone and the Kemerton Ancillary Industry zone. The Structure Plan design accommodates buffers to each of these wetlands where practical. There are several instances where mapped wetland boundaries are significantly affected by infrastructure corridors (existing roads and power lines). These include:

- Wetland No.14545 on the corner of Rhodes Road and Wellesley Road North (impacted by existing road reserve).
- Wetland No.14485 on Rhodes Road (impacted by existing road reserve).
- Wetland No.1682 on Mitchell Road/Wellesley Road (impacted by existing road reserve and 132 Kv transmission line corridor).
- Wetland No.1858 on Marriott Road(impacted by existing road reserve).
- Wetland No.1529 on Marriott Road(impacted by existing road reserve).
- Wetland No.1530 and 1716 on unnamed road (impacted by existing road reserve).

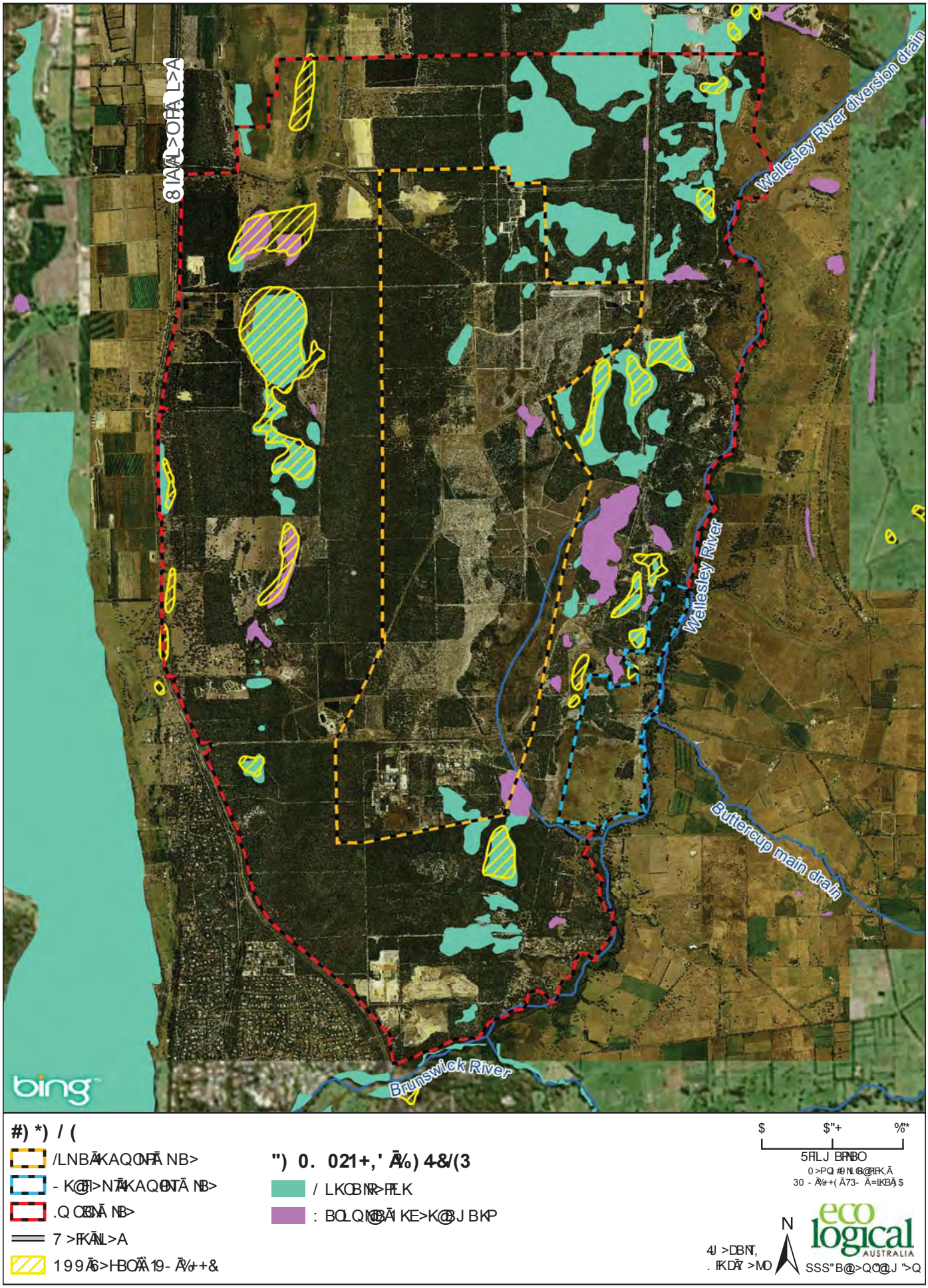


Figure 13 Rivers and Geomorphic Wetlands

The wetland, its buffer and any associated vegetation will be protected through the mechanisms outlined under the Overarching Environmental Management Plan, where individual Environmental Management Plans will be required for the protection and management of these wetlands.

6.4 Bushfire Hazard

A Strategic Overarching Bushfire Management Plan (SOBMP) has been prepared by RUIC Fire for the Structure Plan as it contains and is adjacent to significant tracts of bushfire prone land. Bushfire prone land is land that contains or is within 100 m of bushfire prone vegetation, being unmanaged grassland, scrub or wooded vegetation of certain size and spatial characteristics.

During the course of the Structure Plan assessment process the WAPC's SPP 3.7 – Planning in Bushfire Prone Areas document has been finalised. Subsequently, a Bushfire Management Plan (BMP) has been prepared in response to the updated SPP 3.7 and feedback provided by the Department of Fire and Emergency Services and DPaW during the assessment of the Structure Plan. Where proposed lots are located within bushfire prone areas, proponents are required to prepare a Detailed Fire Management Plan prior to development, having regard to the BMP prepared in support of this Structure Plan (refer to Appendix G).

Figure 14 illustrates the strategic Bushfire Hazard Level Assessment for the assessment area. The site contains low, moderate and extreme bushfire hazard level areas. The KSIA Structure Plan acknowledges that it is possible that some of the Core will not be able to be developed due to the environmental values present. Future lot sizes, configuration and development 'footprints' are to be determined at the subdivision stage based upon detailed assessment of a range of criteria including the Overarching Water Management Strategy, bushfire management, biodiversity measures (including wetland management and habitat protection) and the extent of clearing required to implement the proposal. Existing mapping should be used as a guide, with a case-by-case analysis of site specific constraints needed to support future individual development areas. The development and maintenance of Asset Protection Zones (APZs) and all other bushfire management strategies outlined in the BMP are to be undertaken in a manner that preserves the identified priority flora and fauna species. Priority flora species may be retained within the APZs as part of low bushfire threat landscaping.

6.5 Heritage

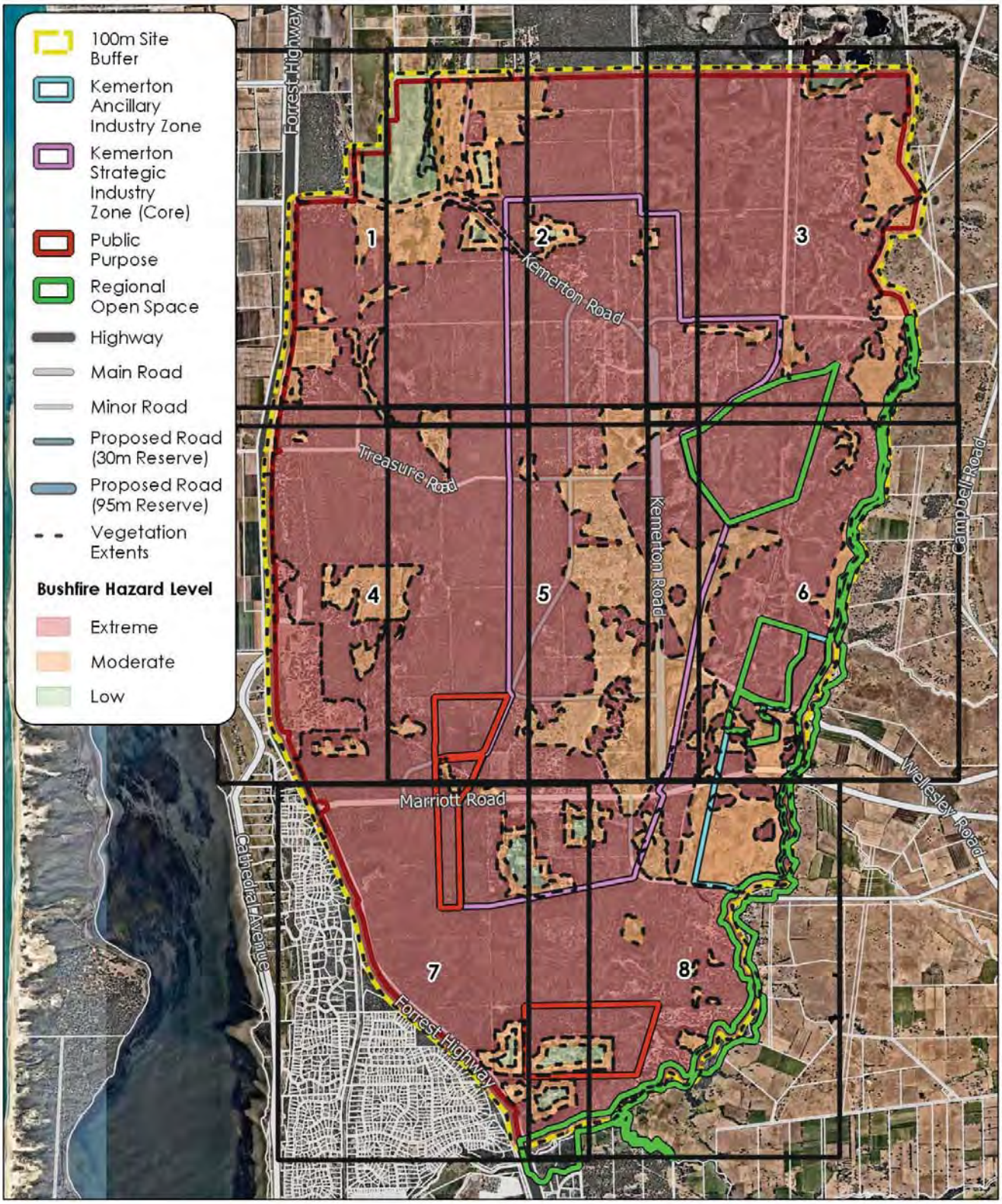
An Aboriginal Heritage Survey of the Core was conducted in 2011 by Brad Goode and Associates (2011). The report was prepared for the South West Aboriginal Land and Sea Council on behalf of LandCorp. As a result of consultations with nominated members of the Gnaala Karla Booja WC98/58 Native Title Claim group no ethnographic sites of significance, as defined by section 5 of the *Aboriginal Heritage Act 1972* were identified.

One registered archaeological site was confirmed to occur within the Core; Department of Aboriginal Affairs (DAA) 4887 Marriott Road consisting of artefact scatters. The site is located on the south-western side of the river in an exposed yellow sandbank at the junction of Wellesley River and Devlin Road. No other archaeological sites were found. The South West Aboriginal Land and Sea Council has been consulted regarding the KSIA and have endorsed the findings of the 2011 report undertaken by Brad Goode and Associates.

Refer to Appendix H - Aboriginal Heritage Management Plan

It is noted that a historical camp occupied by Mr Bob Wallam and his family during the 1960's is known to be located within the Inter Industry Buffer area. The Nyungar informants requested that this area be reported as a site of 'special significance' as a 'cultural marker', under section 5a of the AHA. It was further requested that the proponents recognise the importance of this place by the provision of a plaque that acknowledges the Wallam family and the social history of the Nyungar community as an agrarian labour force that contributed to the success of the development of agriculture in the region.

During the survey the Nyungar consultants also reported the Wellesley River and the chain of wetlands within the survey area to be significant as places of customary use, as a path of migration, as potential birthing areas, and as places of generalised spiritual value. While it was requested that these areas be reported as sites of significance it is unlikely that they would receive a positive assessment under section 5b of the AHA, as the information was of a generalised nature, no specific myth could be determined and no actual firsthand accounts of these activities were given. Despite these places being unlikely to be sites under the AHA, the cultural values reported should nevertheless be considered and protected, as these areas are also of considerable environmental value. An Aboriginal Heritage Cultural Management Plan (AHCMP)



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BUSHFIRE MANAGEMENT PLAN MAP
Kemerton Strategic Industrial Area

Bushfire Hazard Assessment - Map Index

Kemerton Industry Buffer Outer Boundary
KSIA Structure Plan Boundary
Cadastre (outside site)

N
Size: A4
Scale: 1:60,000
0 500 1000 1500 2000 m

Ref: 5549_002_01_VegHazard_20160906
Projection: GDA94 MGA50
Author: MM - RUIC | Date: 2016-09-13
Data Source: Cadastre - Landgate; Imagery - Nearmap; Roads, Site Boundary, Veg, BAL, Buffers, BMS - RUIC.

Disclaimer: Although the data within this map is considered accurate at the time of creation, RUIC Fire does not guarantee, and accepts no legal liability whatsoever arising from or connected to, the accuracy, reliability, currency or completeness of any data used within this map.

Figure 14 Bushfire Hazard Level Assessment – Map Index

could detail strategies to protect the cultural values identified outside the parameters of the AHA.

A recent search of the Department of Aboriginal Affairs Aboriginal Heritage Inquiry System indicates that there may be archaeological/ethnographic sites in the Buffer, which was excluded from the 2011 survey.

The KSIA does not contain any sites on the Register of the Western Australian Heritage Commission (now Heritage Council of Western Australia). The Florries Cottage Group site (P3757) is currently being assessed for possible inclusion in the State Register of Heritage Places.

Refer to Figure 15 - Map of the survey area in relation to Aboriginal Heritage Sites

6.6 Priority Basic Raw Materials and Mining Tenements

6.6.1 Mining Tenements

The KSIA contains a number of mining tenement applications over the Core. A summary of these tenements is provided in Table 4.

Table 4 - Mining Tenements within the KSIA

TENID	TYPE	TENEMENT STATUS	HOLDER
E 7003894	EXPLORATION LICENCE	PENDING	IMAGE RESOURCES NL
M 7000871	MINING LEASE	PENDING	BMax Cristal
M 7000986	MINING LEASE	PENDING	BMax Cristal
M 7000987	MINING LEASE	PENDING	BMax Cristal

These tenement applications confer first right of grant to the applicant. To date, these mining tenements have not been granted by the Department of Mines and Petroleum. Mining these tenements would impact on wetlands and would require clearing of native vegetation (Jarrah/Marri/Banksia). The deposits are deep and would require a deep and wide pit. The location of the mining tenements is shown in Figure 16 - Location of Strategic Mineral Resource Protection Areas.

Refer to Figure 16 - Location of Strategic Mineral Resource Protection Areas.

6.6.2 Extraction Operations

The WAPC State Planning Policy 2.4 - Basic Raw Materials sets out the matters which are to be taken into account by the WAPC and local governments in considering zoning, subdivision and development applications for the extraction of basic raw materials (e.g. sand and limestone). The policy requires quarry operators to submit Management Plans that set out proposals for landscaping to screen activity on the site, providing suitable vehicle access to the site, and the progressive and ultimate rehabilitation of the site for its intended long-term use.

The Policy states that “any proposed land use or development that would potentially be incompatible with or sensitive to mining activities or the extraction of basic raw materials” should be resisted within the 500m buffer.

Any quarry operations will therefore impact on how and when areas of the KSIA can be developed. Monitoring of these Management Plans against the Structure Plan will be important so as to minimise the potential for extractive operations to adversely impact future industrial development.

Presently there is one extractive licence application within the KSIA, located on private land owned to the north (Refer to Table 5). Silica Sands operates a sand extraction operation just north east of the KSIA. Silica Sands mines 400,000 to 500,000 tonnes per annum (tpa) silica sand which is exported for glass making. The mining comprises a dredging operation from which sand is pumped to a processing plant, which extracts heavy minerals by an electromagnetic process. The silica sand mining is on “Minerals to Owner” land where this type of mining does not fall under the *Mining Act* and there is no requirement to obtain a mining or exploration licence. This mining is therefore not monitored by the Department of Mines and Petroleum but is monitored by the EPA under Ministerial Statement 366.

Table 5 - Extractive Industries (Sand)

Lot	Location
4	Runnymede Road
7	Runnymede Road
11	Runnymede Road
5	Wellesley Road
70	Wellesley Road

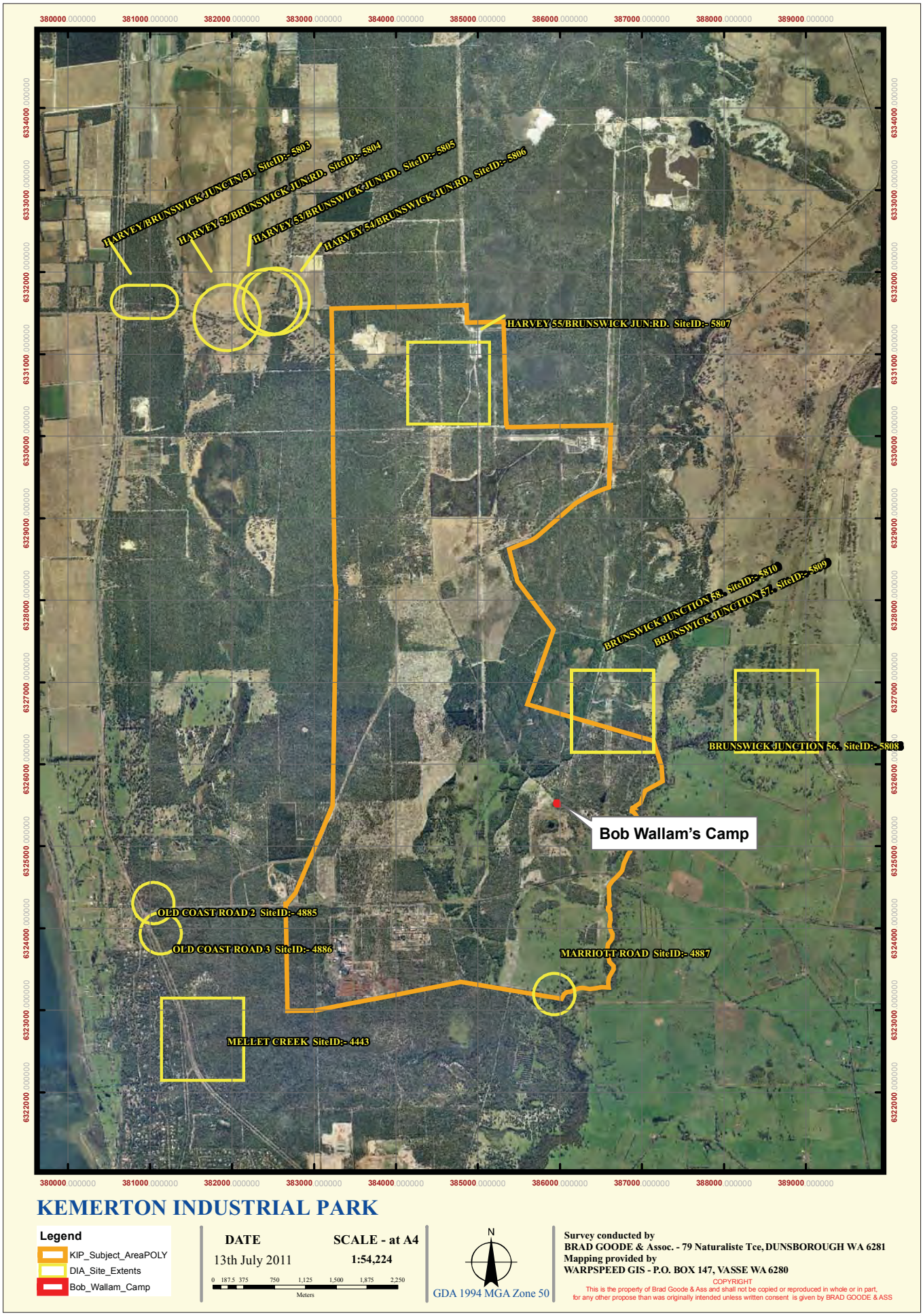


Figure 15 Map of the Survey Area in Relation to Aboriginal Heritage Sites

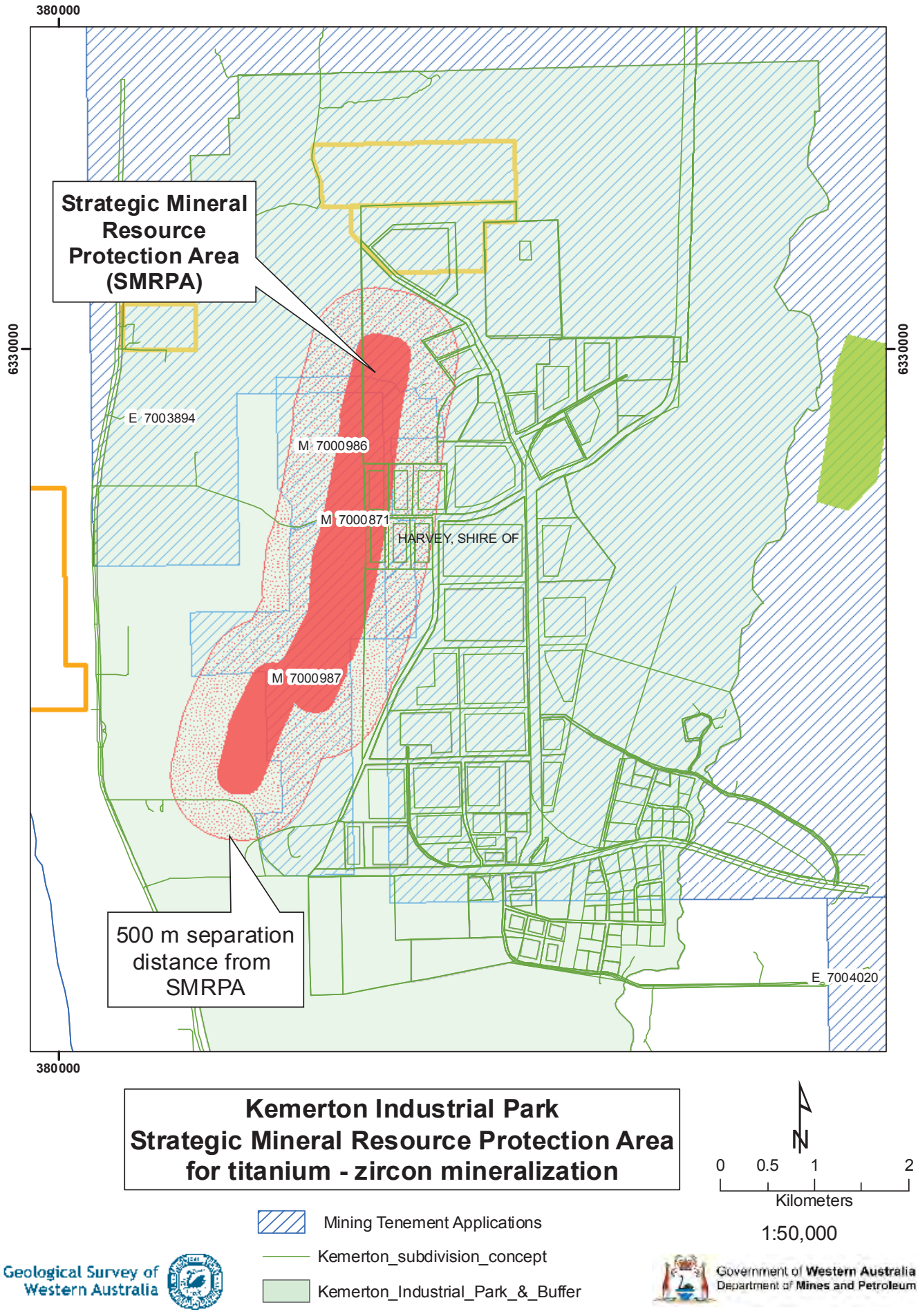


Figure 16 Location of Strategic Mineral Resource Protection Areas.

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7. Opportunities and Challenges

This section provides an overview of the opportunities and challenges presented in delivering the KSIA project. The issues raised under the Opportunities and Challenges section are discussed in further detail in the subsequent sections of this report.

A summary of the key Opportunities and Challenges are outlined below, and shown graphically in Figure 17.

Refer to Figure 17 - Opportunities and Challenges Mapping

Table 6 - Opportunities and Challenges

Opportunity	Structure Plan Design Response
Maximising connectivity to Port, Road and Rail The KSIA is strategically located in close proximity to major road, rail and port infrastructure. It has good transport links to the South West region and its substantial primary industries, and international transport routes through the deep water Port of Bunbury by planned road and rail, the Perth Bunbury Highway, and the South Western Highway.	There is an opportunity to integrate a dedicated rail spur line from the south west main rail line, linking to the Bunbury Port. This would be determined by the definitive requirements of a major rail- served industry within the KSIA, rather than any needs of the railway network as such. The Structure Plan integrates three east-west road connections (Kemerton Road, Treasure Road and Marriot Road) into Forrest Highway. East-west connections are also provided to the South-Western Highway via Marriott Road and Wellesley Road.
Employment Generator for Industry The KSIA is the largest industrial area in the South West of Western Australia and is one of the State's designated 'strategic industrial' areas, and one of only two heavy industrial estates in the South West Region. The KSIA is ideally placed to process primary resources closer to source, to add value to exports and to promote regional economic development and employment. The KSIA provides an important staging post for a wide catchment of processing, refining and export based industries. Industrial Land Strategies for the Perth, Peel and SW Region have identified the general scarcity of supply of heavy and strategic industrial sites, particularly those with large, flat, unencumbered sites.	The KSIA is a scarce resource and therefore potentially sought after by Trans-National or 'footloose'* industries seeking a WA location. The KSIA Structure Plan design framework provides for the supply of large lot product to the market, servicing those industries which require a larger development footprint and/or operational separation distances. Spatially, the KSIA benefits from an established substantial Buffer, which is protected through statutory mechanisms of the Special Control Area No.2 under the GBRS and the DPS1 'Kemerton Industry Buffer' zone provisions (as amended through Amendment No.114). * *Footloose industry is a general term for an industry that can be placed and located at any location without effect from factors such as resources or transport.* *These industries often have spatially fixed costs, which means that the costs of the products do not change despite where the product is assembled.*

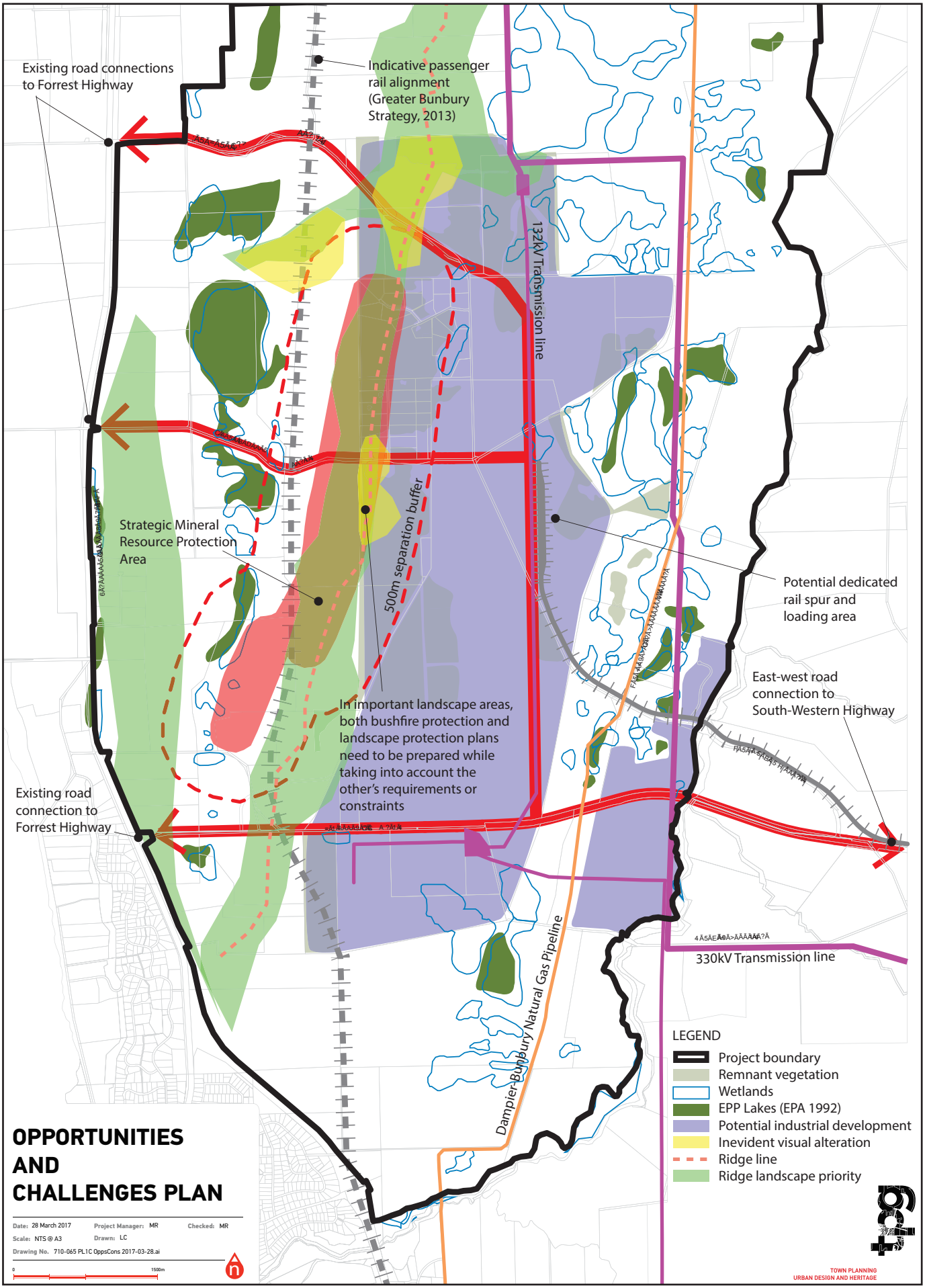


Figure 17 Opportunities and Challenges Mapping

Opportunity	Structure Plan Design Response
Natural Environment The development of the KSIA provides an opportunity to protect and enhance the environmental features of the site through the rehabilitation of existing wetlands and the creation of new open space corridors.	There are several instances where mapped wetland boundaries are significantly affected by existing infrastructure corridors (constructed roads and power lines and associated easements). In this context, the Structure Plan road network and indicative lot layout has been designed, where practical, to follow existing road reservations and service corridors in order to minimise any potential impacts on existing wetland boundaries. Wetlands Within the Strategic Industry zone and Ancillary Industry zone There are a number of wetlands located within the Ancillary Industry zone, including Conservation Category wetlands, Resource Enhancement wetlands and a series of Multiple Use wetlands. A designated 100m wetland buffer has been accommodated in the design layout for the Conservation Category wetland (No.14489) located on land owned by the Shire of Harvey. Other wetlands located within industrial zoned land will be subject to site-specific buffer requirements, as determined at the detailed development stage. Existing wetland values will be maintained and buffers formally preserved as part of the mechanisms implemented by the Overarching Environmental Management Plan. The Department of Environment Regulation's general buffer expectations for Resource Enhancement wetlands are between 30 metres to 50 metres from the wetland boundary, whilst Conservation Category wetlands should have buffers at least 50m wide. South West Agricultural EPP Wetlands It is noted that none of the wetlands located within the Strategic Industry zone or Ancillary Industry zone are protected by the South West Agricultural EPP. All wetlands protected by the Lakes EPP are contained within the Industry Buffer zone or reserved as Regional Open Space.
Industrial Ecology A number of options exist for cooperative development of facilities that will be provide for: • treatment of biological wastewater produced in the KSIA; • treatment and disposal or recycling of domestic wastewater from the surrounding residential uses; • production of adequate quantities of treated wastewater that can be used by industries or irrigation areas within the KSIA in preference to scheme or groundwater; and • the use of externally sourced industrial wastewater, including the ocean outfall from the Collie Power Station, located near Buffalo Road.	Development will be progressed using the principles of Industrial Ecology to optimise resource use and encourage recycling and reuse of resources between industries, reducing discharges to the local environment at the Development Application stage.
The protection of significant environmental attributes, where deemed appropriate within the designated Strategic Industry zone and Ancillary zone. This includes, but is not limited to, TEC's and high value wetlands and associated buffers. Figure 18 shows the areas of significant remnant vegetation in the Buffer (as recommended by the EPA to be provided with a high level of protection through the planning system) and the areas of significant vegetation or wetland values within the Core. *Refer to Figure 18 - Environmental Constraints*	The design framework of the Structure Plan provides the necessary flexibility to create large lot product, whilst incorporating and protecting significant environmental features through the preparation and implementation of Individual Environmental Management Documents (as prepared by Proponents). The constraints mapping should be used as a guide, with a case by case analysis of likely constraints needed for individual development areas. Approval requirements such as avoidance and offsets will be determined through the necessary approvals process. One or more of the aspects of constraint may apply to an area of land; the type and complexity of the individual constraint/s will influence the level and ease of approvals. Refer to Appendix C – Over-arching Environmental Management Plan, page 58 for further information on how the environmental constraints mapping was derived.

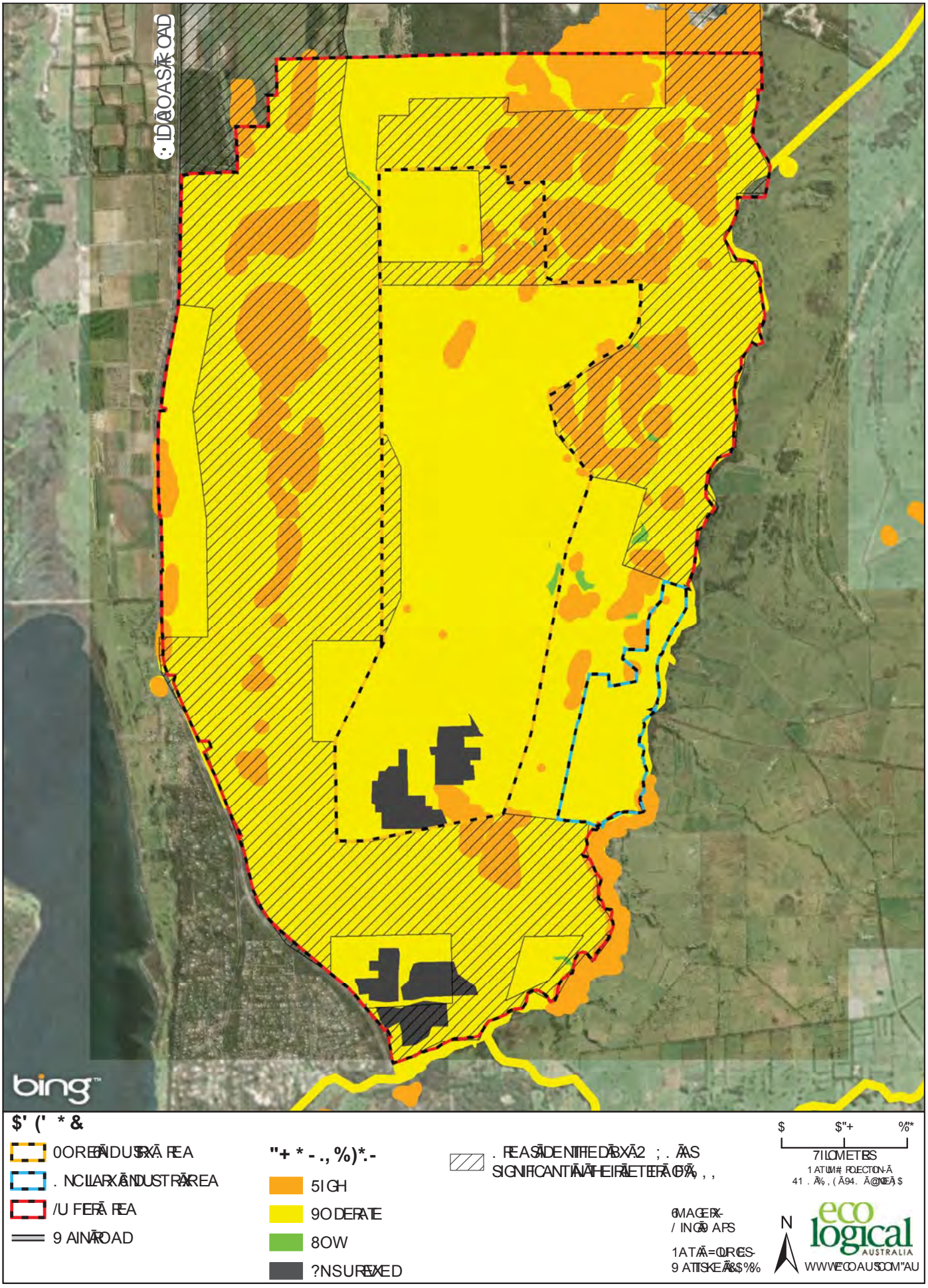


Figure 18 Environmental Constraints

Challenges	Structure Plan Design Response
Existing infrastructure Corridors The orderly design and development of the KSIA needs to accommodate the existing infrastructure corridors which need to be maintained across the area. These include: • Dampier to Bunbury Gas Pipeline High; • 330kV overhead lines; and • existing road reserves which service established industry.	The Structure Plan has incorporated these existing infrastructure corridors and consolidated these alignments to achieve efficiencies in land area by: • Integrating common service corridors for existing and future industry pipe conduits; • Integrating a potential rail spur line immediately adjacent to existing and proposed road reserves; and • Integrating drainage swales as part of these corridors. The Structure Plan design accommodates the fixed levels of the DBNGP and associated setbacks.
Quarry Operators Portions of the site are subject to quarry operations. Ongoing quarrying and the resulting earthworks levels will need to be coordinated to achieve useable grades for future industry. Any quarry operations will impact on how and when areas of the KSIA can be developed. Presently there is one extractive licence application within the KSIA located on private owned land to the north.	The Structure Plan accommodates the existing quarry operations north of Treasure Road. Monitoring of Management Plans against the Structure Plan will be important in order to minimise the potential for extractive operations to adversely impact future industrial development and operations.
Service Infrastructure The KSIA is not within a planned Water Corporation sewer reticulation service area. All works would need to be fully developer funded, including requisite pump stations, pressure mains, and wastewater treatment plant. a	Alternative servicing models are being investigated. Similarly, the KSIA is not within a planned water reticulation service area. However, a number of options exist for potable and process water supplies.
Mining Licences Four mining tenement applications apply over the KSIA, where all tenements are pending (they have not been granted by the Department of Mines and Petroleum). The tenement applications confer first right of grant to the applicant. These mining tenements potentially impact on wetlands and would require the clearing of native vegetation. Should these tenements be approved, the mining would require deep and wide pits to access the deposits.	Should mining occur across the KSIA this would fundamentally affect how and when the KSIA would be developed for industrial purposes. Appropriate staging of the KSIA would need to be considered if this mining were to occur.
Landscape Priority Areas The landscape assessment undertaken for LandCorp and DSD (Kemerton Strategy Plan Landscape Assessment Study, James, 2007) identified 'Landscape Priority Areas' within the KSIA. The assessment demonstrated a higher level of visual significance for the western slopes of the north-western ridge than the eastern slopes, although the ridgeline itself is also important. The western slopes are constrained for industry, suitable only for limited earthworks to provide for industrial sites in selected locations. The report suggests that such sites may need to be supplemented with landscape planting to aid visual screening and the appearance of structures nestled into the ridge landscape.	LandCorp and DSD shall progressively implement the landscape management guidelines set out in the Kemerton Strategy Plan Landscape Assessment Study including planning guidelines relating to the north-west ridge area. This will include site design and landscape planting requirements by proponents at the Development Application stage.

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8. Structure Plan Design

The Structure Plan is an important planning instrument to inform and facilitate the future staged development of the KSIA. The Structure Plan has been prepared to provide a logical and robust design framework for the future subdivision and subsequent site development of the KSIA. The design represents a logical and efficient layout, utilising existing road reserves and service corridors where feasible, providing good connectivity to existing surrounding road networks, whilst providing strong internal linkages.

Refer to Figure 19 – KSIA Structure Plan

8.1 Land Use

Land use permissibility within the Structure Plan area shall be in accordance with the corresponding existing and proposed zones and reserves under DPS1 (as amended under proposed Amendment No.114):

- Kemerton Strategic Industry zone;
- Kemerton Ancillary Industry zone;
- Kemerton Industry Buffer zone;
- Regional Open Space; and
- Public Purposes.

8.1.1 Kemerton Strategic Industry Zone (the Core)

The objective of this zone is to establish a heavy industrial park buffered by large areas of natural parkland in which all industrial development adheres to strict environmental development and operational criteria approved by the EPA and Council.

8.1.2 Kemerton Ancillary Industry Zone

Industry within this zone shall be General Industry, being ancillary to the heavy industry in the KSIA. Ancillary in this respect means that the proposed development must demonstrate that the major portion of the source material, finished produce, or services provided support or have some form of synergy with industries established in the Strategic Industry zone.

8.1.3 Kemerton Industry Buffer Zone

The primary purpose of this zone is to serve as a low intensity use area between the Strategic Industry zone and Ancillary Industry zone and where possible public recreation and flora and fauna conservation shall be encouraged. Proposed land uses within this zone must not compromise the noise, air and risk modeling emissions for existing and projected industry within the KSIA.

8.2 Indicative Subdivision Concept

The Indicative Subdivision Concept has been prepared to demonstrate one of many potential design iterations, where multiple lot creation can occur within the Strategic Industry zone (the Core) and the Kemerton Ancillary Industrial zone based on the Structure Plan's broad design framework. It demonstrates the designs ability to accommodate a wide range of lot sizes and configurations. As per the advice of the WAPC's DC Policy 4.1, lot size requirements are difficult to predict at the initial planning stage, and hence lot design should allow for flexibility in the later planning and development stages.

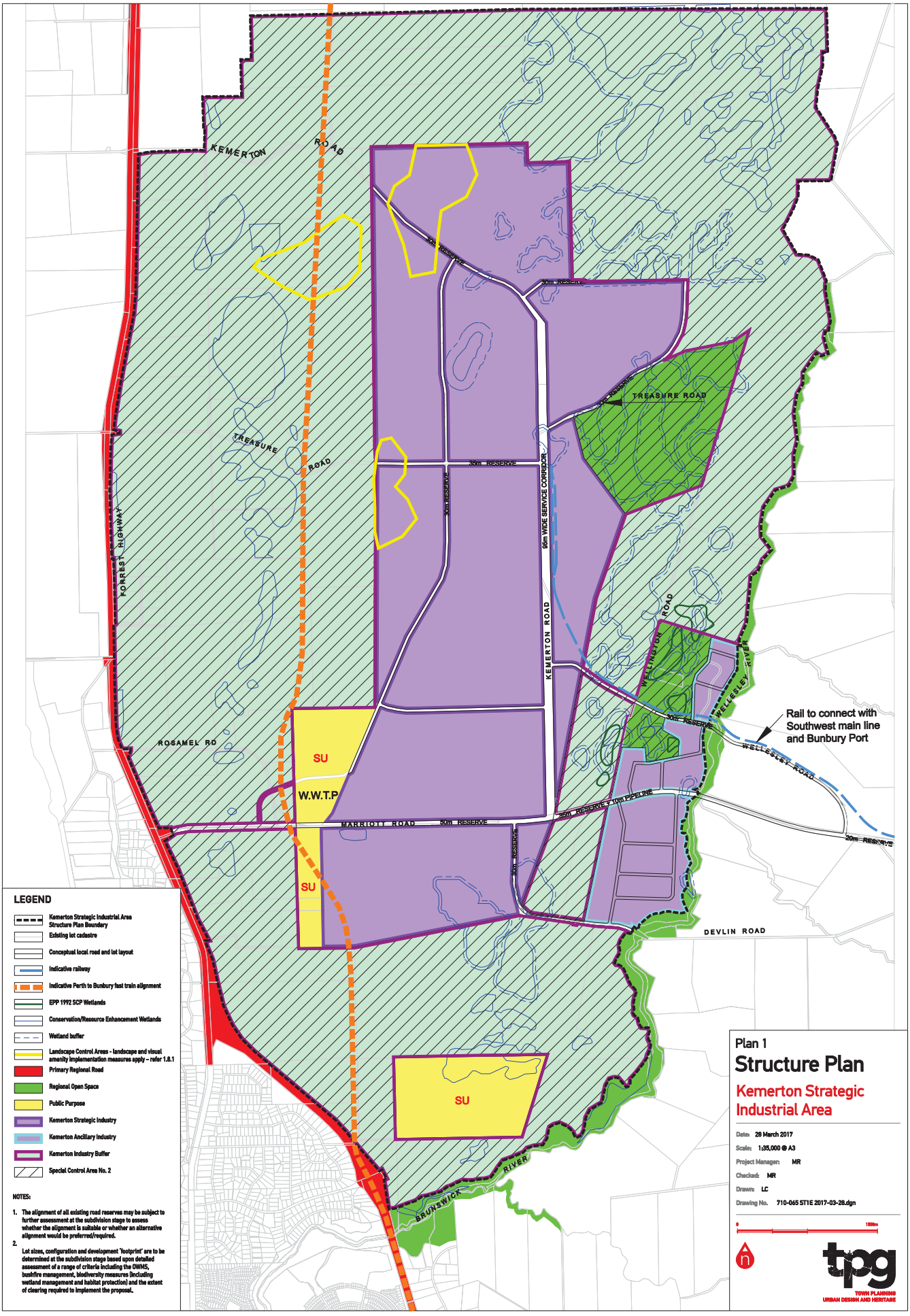


Figure 19 KSIA Structure Plan

The Structure Plan incorporates a logical local road layout, providing the needed flexibility to respond to industry needs. The design allows the future subdivision of areas into a series of modules for subsequent lot creation and site development. The final lot layouts will be proponent driven and will therefore evolve over time as the KSIA is progressively developed. It is noted there are a number of State and Commonwealth environmental values that occur throughout areas zoned for development within the Strategic Industry zone and the GBRS 'Industrial' zone. However, this does not necessarily assure that disturbance can occur in all of these areas. It is possible that some of these areas will not be able to be developed due to the environmental values present.

Refer to Figure 20 – KSIA Indicative Subdivision Concept

8.2.1 Kemerton Strategic Industry Zone (the Core)

The Indicative Concept Subdivision shows lots ranging from approximately 5 ha to 71ha in size. The larger lots generally coincide with the higher impact use categories located centrally within the Core and should be reserved for major industries. Related downstream processing or specialist industries may be suited to medium sized lots. There is potential to amalgamate several lots if there is a need for larger sites. Alternatively, some larger lots could be subdivided into medium sizes depending on industrial demand.

8.2.2 Kemerton Ancillary Industry Zone

There are three distinct areas of land allocated for this zone. The northern parcel, north of Wellesley Road and adjacent to the Wellesley River, has previously been subdivided and has been partly developed for rural residential purposes, although substantial remnant vegetation remains. An opportunity exists for re-subdividing the area with lots in the order of 5000m^2 to 2ha.

The remaining areas are located between Wellesley Road and Marriot Road, and between Marriott Road and Devlin Road. These areas accommodate the existing infrastructure corridors including the north-south and east-west running 132kv power lines and associated easements, the 330kv north-south running power line and easement, and the high pressure gas pipeline which runs along the western boundary. Indicative lot sizes within this area range between approximately 4000m^2 to 5.5ha, with the majority around the 1.5ha size. The final lot configurations for this area will be subject to subsequent subdivision applications prepared in response to the end users specific needs.

8.2.3 Kemerton Industry Buffer Zone

Landholdings located within the Kemerton Industry Buffer zone are included within the Special Control Area No.2 of the Greater Bunbury Region Scheme. The Structure Plan does not propose any conceptual subdivision or development within this zone. When considering development applications with respect to land wholly or partly within the Kemerton Industry Buffer zone, applicants are required to satisfy the provisions of Part 5 – Division 3 – Kemerton Industrial Zone Buffer Area and Part 7 – Applications for Planning Approval of the Greater Bunbury Region Scheme.

8.3 Industry Precinct Plan

The Structure Plan provides long-term guidance for the staged development of the Structure Plan area undertaken by proponents. The Industry Precinct Plan which forms part of this document is intended to guide the potential location of industry types within the Structure Plan area based on individual operational criteria including, but not limited to, operational risk, noise emissions, air emissions and infrastructure requirements.

Figure 20 includes an indicative layout of industries using 'Industry Type by Impacts' based on Risk, Noise, and Air emissions cross-referenced to High, Medium and Low impacts. These classifications are a guide to industry location based on the investigations undertaken by Air Impact Assessment (Air Assessments), QRA Assessment (ERS), Acoustic Impact Assessment (Herring Storrer). Refer to Appendix I, J and K for respective reports.

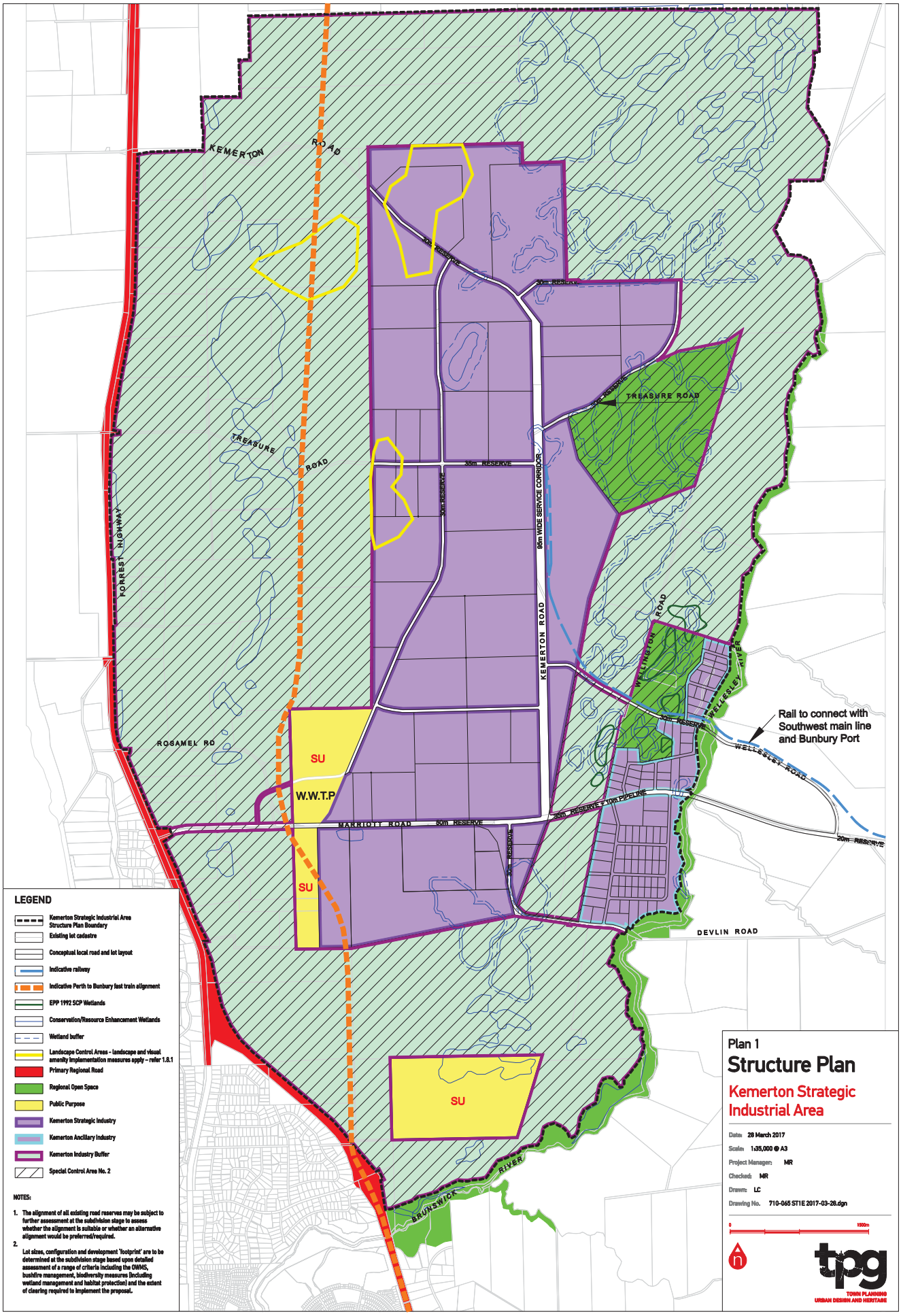


Figure 20 KSIA Indicative Subdivision Concept

Refer to Figure 21 - KSIA Industry Precinct Plan - Industry Type By Impact

Each future industry proposal will be subject to environmental assessment including the need to demonstrate to the satisfaction of the EPA that it meets the respective environmental standards for risk, noise and air emissions within the Kemerton Strategic Industry zone and at the Kemerton Industry Buffer Zone boundary. The elongated north – south orientation of the Core reflects the ideal orientation to minimise environmental impacts given the climatic, topographical and environmental features of the area. The highest impact uses (High Risk, High Air, High Noise) are confined to the main north-south spine of the KSIA allowing the greatest separation distances from land uses outside the Kemerton Industry Buffer zone and the best layout for minimising cumulative impacts.

The assessment of environmental impacts of industrial development shall take account of cumulative impacts of existing industry and shall be subject to environmental assessment and licensing by the EPA prior to the commencement of construction. To ensure the continued acceptance of industry, all development shall be subject to an ongoing program of self-monitoring subject to EPA audit.

The Industry Precinct Plan may need to evolve over time in response to the type and scale of industries which shall establish within the area. If an industrial developer demonstrates it should be located in an alternative location to the preferred precinct, this may occur subject to business case approval by the DSD and LandCorp.

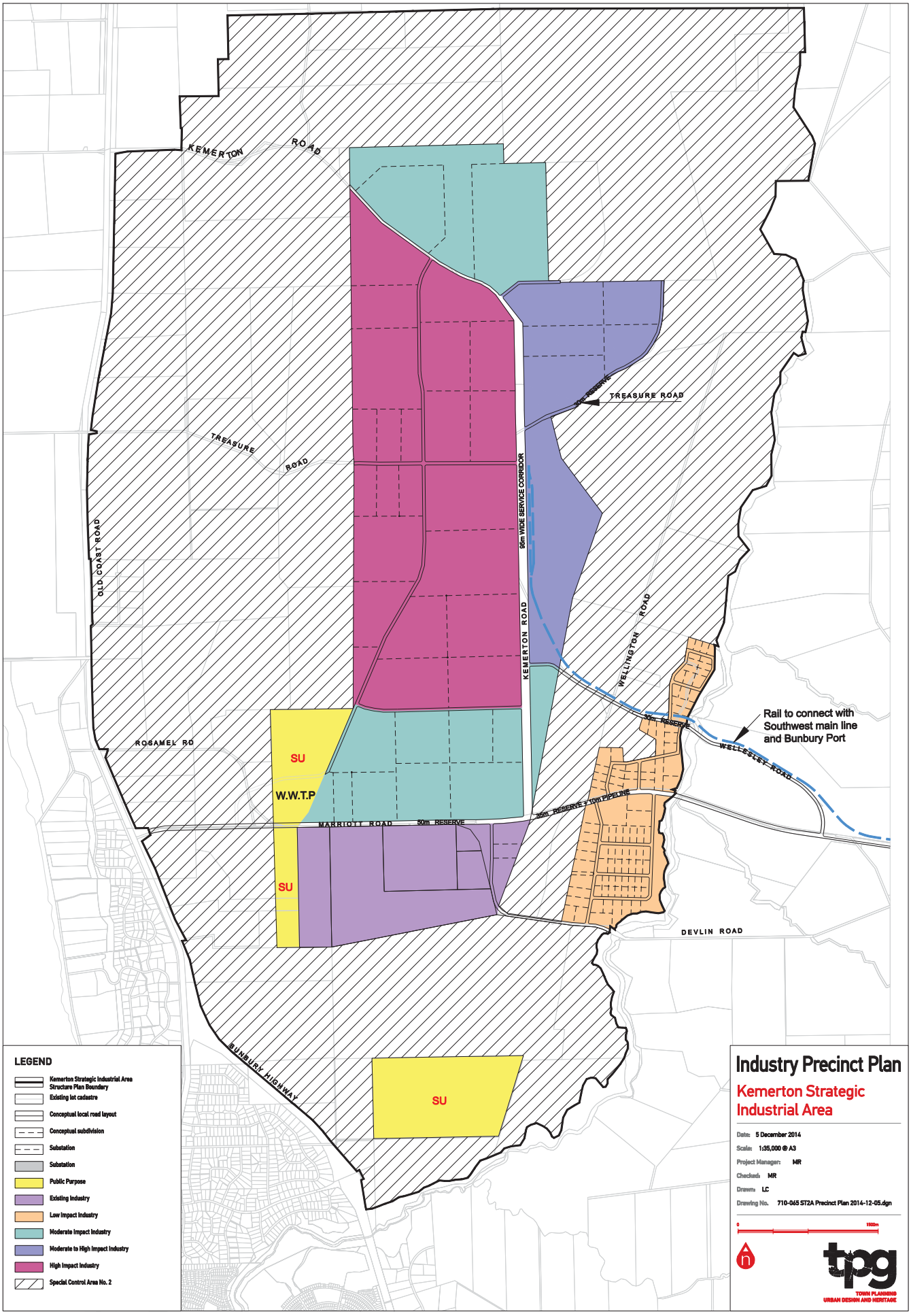


Figure 21 KSIA Industry Precinct Plan - Industry Type by Impact

9. Visual Impact

The visual impact of the KSIA, particularly the prominent ridge located along the north-western boundary of the Kemerton Strategic Industry zone, has been identified in previous planning documents including Industry 2030 - Greater Bunbury Industrial Land and Port Access Planning, WAPC 2000:

> *Some areas of vegetation/landscape interest remain in the core, including the ridgeline. In order to minimise impacts on these values, consideration will be given to landscape protection in the form of building setbacks, recontouring, screen planting requirements and other measures (particularly when viewed from Old Coast Road) at the detailed structure planning, subdivision and development stages. In particular, development along the northwest ridge of the new core will be subject to special planning controls so as to ensure visual impacts are minimised. This will be done in extensive consultation with the local community.*

Accordingly, a landscape assessment study directs particular attention to the northwest ridge, but also assesses values across the whole of the KSIA. The Kemerton Strategy Plan Landscape Assessment Study (2007) establishes visual management objectives. These objectives were formulated based on the feedback provided at a community workshop held on 11 February 2006. The workshop included a site visit as well as facilitated information and group feedback sessions. The most significant concerns raised at the workshop were:

- views from the north on Forrest Highway from the east should be protected. Views from the future residential subdivision to the west should be considered;
- development along the ridge and on the west side should be inevident;
- screen planting should be implemented in the early stages of KSIA's development so that it is effective when development takes place; and
- it is acceptable to undertake significant earthworks on the eastern side of the ridge to ensure the visual impact of the development is reduced.

Refer to Figure 22- Landscape Priority Areas

These objectives have been carried through and applied to the Structure Plan. The following opportunities for managing visual amenity impacts have been identified and incorporated as part of the Structure Plan design:

- the western ridge is an area of high visual aesthetic significance and accordingly has been identified primarily as an area of retained vegetation and will not be developed;
- the areas of high visual aesthetic significance coincide with areas of high conservation value, in particular, the wetlands located within the Buffer. This provides opportunities for conservation of both ecological and visual aesthetic values and for the restoration of values in degraded areas; and
- landscape corridors forming the edges of road reserves and service corridors have been designated within the Kemerton Strategic Industry zone.

LandCorp and DSD supports the planting of additional vegetation along the corridor east of the proposed Ancillary Industry zone, subject to the Shire's endorsement.

The application of landscape implementation measures and visual screening principles (outlined in 9.1 and 9.2) will ensure the development of the KSIA upholds visually aesthetic values.

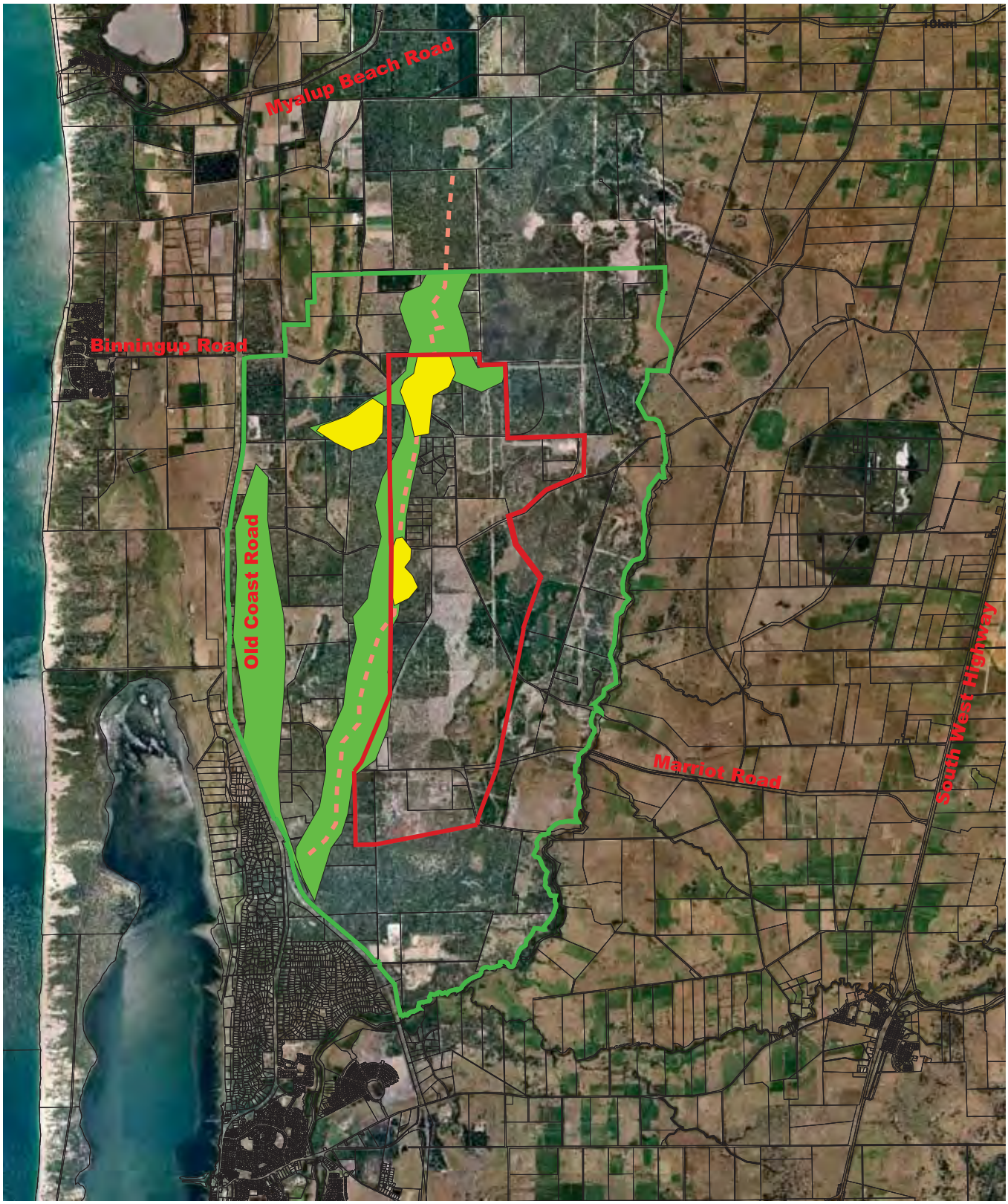


Figure 22 Landscape Priority Areas

9.1 Landscape Implementation

- Plant tall trees within the Simcoa site to partially obscure views of the main building when viewed from Australind;
- establish tall tree plantations on the eastern edge of the Buffer adjacent to Wellesley River to provide maximum and permanent screening of views from farmland to the east;
- implement conservation management in the Buffer and on the western side and ridge within the Kemerton Strategic Industry zone; and
- the existing landscape provisions of DPS1 will be applied at the subdivision and development application stages to enforce suitable vegetation screening along Devlin Road, should it be deemed required by the Shire.

9.2 Visual Design Principles

- Locate only small scale structures (in terms of building height) west of the ridge within the Buffer so that they are “inevident” from Sensitive locations in the distant middle ground (3-6km) or closer. Inevident visual alteration does not preclude change of use, but requires that developments or changes of use shall be of similar form, scale and pattern to the existing landscape;
- at the development application stage to locate the tallest structures in the central area of the Kemerton Strategic Industry zone where practical;
- at the development application stage, provide adequate setbacks on individual lots to enable the retention of remnant vegetation and space for screen planting; and
- where visual aesthetic objectives cannot be met through design or siting, they should be screened from view where possible. Design guidelines shall be developed for signs, planting, fencing, lighting and hard landscaping elements which will be visible from public roads within the Kemerton Strategic Industry zone. Individual industrial lot landscape provisions are currently enforced under the Shire of Harvey’s DPS1.

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10. Movement Network

10.1 Road

The Core needs to be serviced by an effective road hierarchy that takes into account the provision of safe conditions for transport of dangerous/ hazardous goods and the workforce. The proposed internal road layout retains the existing road alignments of Marriott Road, the Kemerton Silica Sands Haul Road and parts of Wellesley Road. The proposed north-south road (referred to as Kemerton Road) will be the main spine road, providing direct connectivity through the Core from Marriot Road up to Treasure Road and through to Old Coast Road. This road will also form an important role as a major service corridor through the KSIA (refer to Section 11.5).

Traffic consultants, Transcore, were commissioned by LandCorp to undertake a Traffic Assessment Report for the KSIA in support of the Structure Planning (refer to Appendix D which contains the Traffic Assessment Report). Transcore has completed detailed modelling of the traffic environment based on projected traffic volumes and usage types in order to assess road design parameters. Their report outlines:

- traffic modelling for the KSIA;
- investigations into proposed road reserve and pavement widths and respective cross sections;
- advice on existing road infrastructure upgrades, where applicable;
- investigations into road treatments, including intersection configurations; and
- external site requirements, where applicable.

In summary, Transcore has recommended the following infrastructure treatments and upgrades:

- traffic lights or roundabouts constructed to Forrest Highway at intersections with Marriott Road, Treasure Road and KSIA Road (formerly Wellesley Road);
- no upgrade to the existing intersection of Marriott Road and South West Highway is anticipated;
- roundabout constructed to Treasure Road / North-South Road four-way intersection;
- intersections of Kemerton Road/Marriot Road and Wellesley Road/Marriott Road to be constructed as priority controlled T-intersections with channelised right turn/channelised left turn treatments;
- other key priority controlled T-intersections within the KSIA area to be channelised right turn/basic left turn;
- all other internal T-intersection treatments to be basic right turn/basic left turn;
- Marriott Road between Forrest Highway and Devlin Road to be upgraded to a 10m carriageway to industrial standard within the existing 60m road/rail reserve; with provision for future upgrade to a dual carriageway within a 50m road reserve;
- Marriott Road between Devlin Road and the eastern KSIA boundary to be upgraded to a 10m industrial standard carriageway with a 35m road reserve;
- Marriott Road between the eastern KSIA boundary and South West Highway to be upgraded to 7.0m rural standard carriage ways within the existing road reserve;
- Treasure Road and Kemerton Road (formerly Wellesley Road) between Forrest Highway and the western boundary of the Strategic Industry zone to be upgraded to 7.0m rural standard carriageways within the existing road reserves;
- Treasure Road between the western boundary of the Strategic Industry zone and Kemerton Road to be upgraded to a 10m industrial standard carriageway with a 35m road reserve;
- Kemerton Road (relocated section of former Wellesley Road) from Marriott Road to approximately 500m north of Treasure Road to be constructed as a 10m industrial standard carriageway with a 35m road reserve;
- Kemerton Road (formerly Wellesley Road) from north of Treasure Road to the western boundary of the Strategic Industry zone to be upgraded to a 10m industrial standard carriageway with a 30m road reserve; and

- all other internal roads within the industrial core, including existing roads and newly created roads, to be upgraded or constructed to 10m carriageways within 30m road reserves.

In order to accommodate proposed stormwater drainage swales, it will be necessary to widen some of the road reserve widths proposed by Transcore. Initial indications are that Marriot Road between Forrest Highway and Kemerton Road will require a 60m road reserve width. Any additional changes that may be required will be determined during detailed design. Preliminary cross-sections for the various proposed road reserve widths have been prepared by Wood and Grieve Engineers.

The road upgrades identified in the Traffic Assessment Report will be undertaken progressively as the KSIA is developed over time. The road infrastructure will be delivered according to the specific requirements at that time.

Further details regarding these intersections, including schematics, can be found within Appendix D – Civil Servicing and Engineering Report.

10.2 Rail

The Greater Bunbury Strategy recognises that for both passenger and freight rail to achieve its full potential in the sub-region, there will need to be a significant increase in rail infrastructure to provide for future industrial growth in the Greater Bunbury sub-Region. It earmarks potential future works to alleviate future freight capacity issues, including the potential duplication of the lines, grade separated road intersections, and the reactivation of lines from Manjimup, Collie and Busselton.

The Australind passenger service currently uses the same line as the freight services. This may be unsuitable in the future as the line reaches full freight capacity.

A spur line into the KSIA from the Bunbury to Perth line, just north of Brunswick Junction, has been planned for some time. The provision of rail access to the KSIA will significantly improve its utility as an efficient strategic industrial area.

The October 2010 document Roads to Export:Greater Bunbury Infrastructure Investment Plan (South West Development Commission et al) concludes that there are significant benefits for shifting Kemerton-Bunbury transport from road to rail for silica sands, silicon metal, and the bulk feedstocks used in titanium dioxide production. The new infrastructure also has the benefit that it will encourage new industry, which might be considering KSIA as a base, but is currently concerned at the lack of rail and port access.

Further rail studies have been undertaken as part of the preparation of the KSIA Structure Plan. The objectives of the studies were to provide the basis for securing a rail freight corridor from the KSIA to the Port of Bunbury and to achieve long term compatibility between transport activity, land use planning, the community and the environment. The report undertaken by GHD (KSIA Strategic Industrial Area Sidings and Spur – Rail Design Report refer to Appendix E) compared the advantages and disadvantages of the following rail design options:

- KSIA Core Rail Alignment: (Internal rail alignment servicing the Industrial Core);
- KSIA to Bunbury Port Rail Alignment: (Options of linking the KSIA to Bunbury Port);
- South West Main Line/Marriott Road Spur Link: (Spur link onto South West Highway).

The following criteria were considered in the preparation of the rail alignment options:

- minimise crossings with existing/future transport network;
- reduce impact on existing properties and residences;
- utilise land holdings in government ownership; and
- minimise impact on significant environmental features (such as wetlands, native vegetation).

The favoured internal rail design alignment (known as Option 1) has been applied to the Structure Plan because it services the entire KSIA without interfering with the fundamental operations of the core of the KSIA, and is located in a space that is central, thereby in proximity to service the majority of industries *(Refer to Figure 23 - Preferred internal rail spur alignment).* Notwithstanding this however, should an industrial

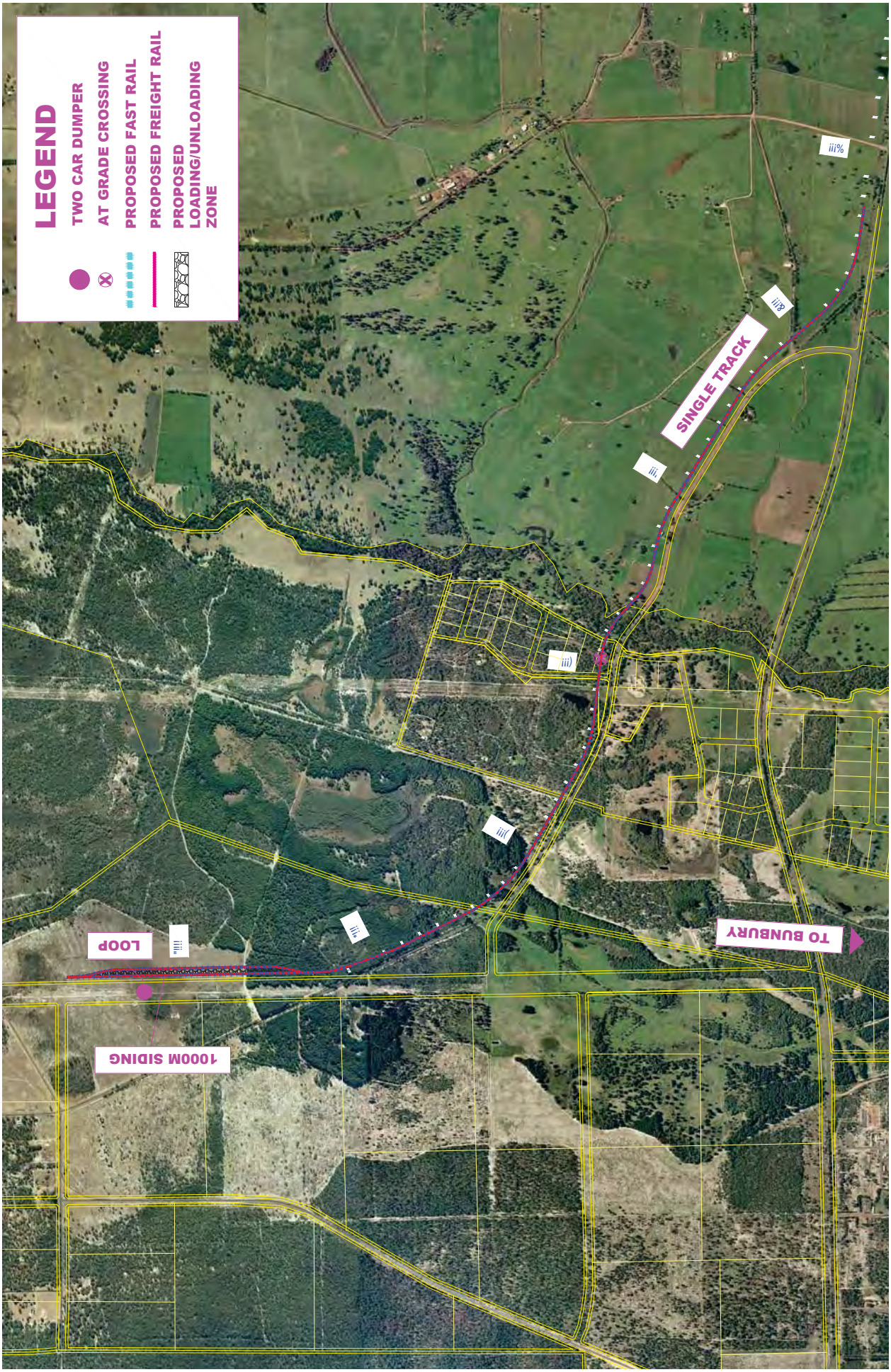


Figure 23 Preferred Internal Rail Spur Alignment

proponent demand a large proportion of the central key area of the KSIA, other rail alignment options can be accommodated into the design framework, as investigated by the GHD study. At this stage of the development of the KSIA, it is not known exactly how many industries or which type industries will need to be serviced by rail. As such, the position of the rail line shown on the Structure Plan is indicative only and will ultimately be dictated by the land size requirement of future proponents.

The preferred alignment into the Port of Bunbury remains via the South West Main Line linked via Marriott Road (Option 1).

Refer to Figure 24 - Preferred Rail Alignment Into Port of Bunbury (Option 1)

It was considered that whilst the Forrest Highway offers a shorter distance of travel, the establishment of new rail infrastructure and additional land purchasing will require significantly more investment than utilising the existing infrastructure than the South West Main Line.

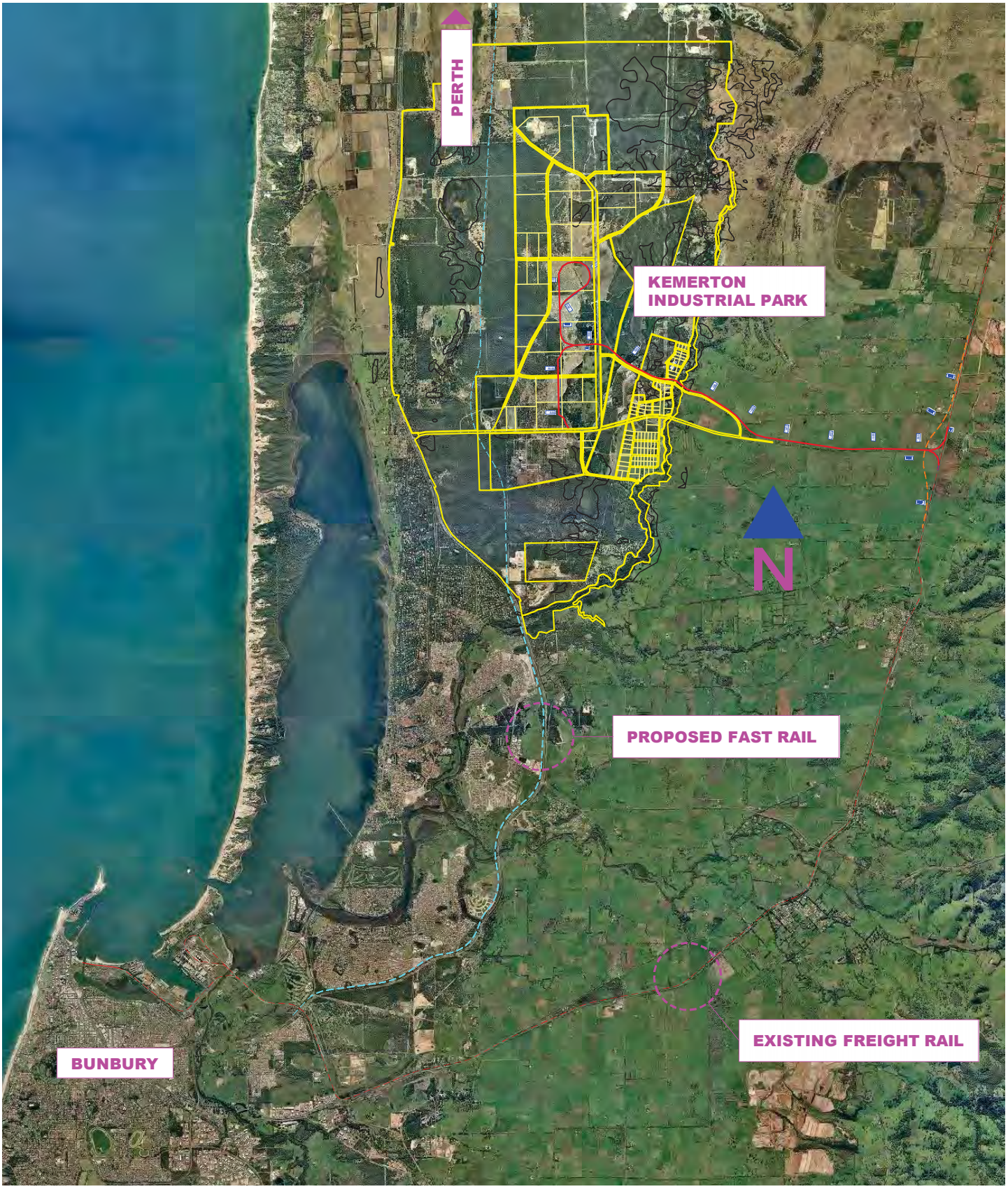


Figure 24 Preferred Rail Alignment Into Port of Bunbury (Option 1)

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11. Infrastructure Coordination and Servicing

The provision of infrastructure for individual subdivided and developed sites is to be undertaken by proponents. LandCorp and the DSD may require proponents to prepare a servicing strategy which investigates the opportunity for the construction of shared services to benefit the broader KSIA.

A preliminary Proposed Services Plan has been prepared by Wood and Grieve Engineers. Refer to Appendix D - Civil Servicing and Engineering report.

Refer to Figure 25 - Existing Services Plan

11.1 Water

11.1.1 Existing Water Supply

The KSIA does not fall within a proposed Water Corporation water reticulation service area. The existing industries at the KSIA abstract water for process and potable water requirements from unconfined and confined aquifers. A summary of the abstraction bores for each existing industry is outlined in the LWMS (RPS, 2014), refer to Appendix F.

The nearest potable water supply is located within Forrest Highway, north of the intersection with Wellesly Road. This supply is conveyed through a DN300 PVC water from the Water Corporation's Integrated Water Supply Scheme (IWSS) and serves the Binningup townsite and surrounding areas. This main would have insufficient capacity to supply the KSIA.

11.1.2 Future Potable and Process Water Requirements

Two water supply and demand studies have been undertaken to assess short and long term supply and demand options required for the KSIA:

- Aquaterra Water Study (2002): This study estimated the type and number of industries that would locate in the KSIA and the estimated future water demand. The study estimated that the water demand at the KSIA is likely to range between 7 GL/yr (low growth scenario) through to 23 GL/yr (maximum growth scenario). Further details are provided within the LWMS (refer to Appendix F).
- Marsden Jacob Associates (2011): This study was commissioned by the South West Development Commission to undertake an economic analysis of the likely demand for industrial water supplies and assess the supply options that may be obtained from local sources. The investigation was required in order to establish future possible water supply options and the feasibility for agricultural and industrial uses in the South West.

  Various water supply and demand scenarios were calculated for the KSIA in order to assess various short and long term supply and demand options required at the KSIA. A summary for each scenario is summarised in Table 7 below.

Figure 25 Existing Services Plan

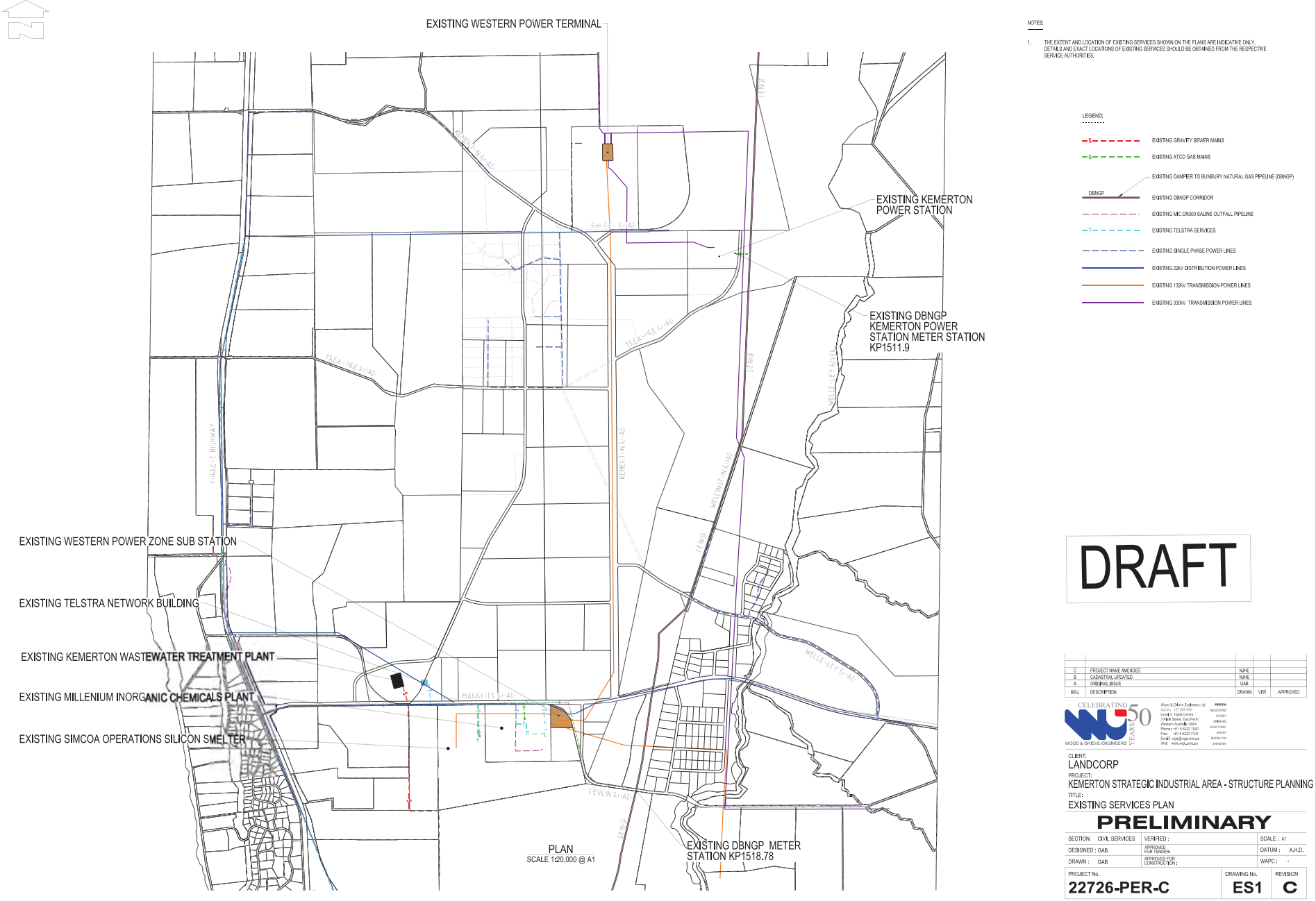


Table 7 - Summary of Supply and Demand Balance for Each Scenario (Marsden Jacobs 2011)

	Current Supply/ Demand (GL)	Prospective Demand and Supply, 2016 (GL)	High Demand and Supply (GL)	High Demand, Low Supply (GL)
Kemerton Water Supply	19	26	26	19
Kemerton Water Demand	10	17	40	40
Shortfall	NA	NA	14	21

In the event that a number of high demand industries locate at the KSIA, such as an aluminium smelter and a power station, the water demand for the KSIA is likely to be 40 GL/year. This will exceed the 26GL of supply proposed to be available. The 26 GL of supply is based on existing groundwater supplies as well as recycled waste water from the Kemerton Water Treatment Plant and groundwater from the Cattamarra Coal measures.

In this instance additional alternate water supplies will be required to meet the water demands of possible high demand industries that may locate to the KSIA in the long term. Should capacity be reached however in the long term (which is predicted to be in 20 to 30 years), further water provision options shall be sought from possible sources such as the Binningup Desalination Plant or improved water recycling initiatives on site and from local industries. These two options mentioned above and additional water sources are discussed in further detail in Section 5.3 of the LWMS.

It is anticipated that growth in irrigated agriculture will be met by existing water entitlements. Water is currently available for agriculture in the Wellesley groundwater sub area and may become available for Harvey Water if salinity in the Wellington Dam improves or if additional water efficiency projects are funded by Government.

The priority in the region is therefore to provide fit for purpose water supplies to support industrial growth.

11.1.3 Future Water Supply

The Marsden Jacob study assessed the feasibility of a wide range of possible water sources and uses. The key water sources available for the KSIA include:

- Integrated Water Supply Scheme(Potable);
- Wellington Dam(Potable and Process);
- Groundwater Abstraction (Potable and Process) ;
- Recycled water from the Verve Pipeline (Process);
- Recycled water from the Kemerton Waste Water Treatment Plant (Process); and
- Recycled water from the Millennium Inorganic Chemicals Treatment Plant (Process).

The Civil Servicing and Engineering Report (Wood and Grieve, 2014) concludes that the most logical short-term solution for a reliable supply would be the Wellington Dam via the Collie North and Cactus Channels to a pump station near the intersection of Marriott and Wellesley Roads, and a pipeline to a series of holding dams within the KSIA, with individual lot owners installing the necessary infrastructure to convey water from the dam(s) to their facility and providing the necessary treatment to suit their own potable/process water needs, with the option of purchasing bottled drinking water. In the longer term, a combination of water supply options may need to be considered, including the establishment of an expandable and comprehensive water factory.

11.2 Power

Existing Western Power infrastructure in the area includes the Kemerton Terminal in the north east corner of the site, the Marriott Road Substation to the south, a major 330kV transmission line running generally north south to the east of the site, major 132kV transmission lines running between the Terminal and the Substation and from the Substation east to Wellesley River then continuing in a southerly direction, several 3-phase 22kV distribution lines in Forrest Highway, Marriott Road and south of Wellesley Road and several single-phase 22kV distribution lines within the subject site.

Western Power's existing 330kV transmission lines are protected by registered easements in favour of Western Power. Western Power has advised that they will request easements for their existing 132kV transmission lines as a condition of the WAPC subdivision process. Preliminary advice indicates a 40m easement will be requested for the line between the Terminal and the Substation, and a 34.5m easement for the line running east from the Substation. Easements may also be requested to protect the existing 22kV distribution lines.

Western Power has completed a Feasibility Study for the KSIA. The feasibility study is based on an assumed nominal design capacity of 200kVA/ha over 100ha per year for ten years, giving a potential horizon load of up to 200MVA, and the assumption that each lot will require a 3+1 RMU switchgear and direct connection to main-line feeder cables.

Initially power supply to the development will come from Western Power's existing Marriott Road zone substation via existing or new feeder circuits, depending on timing and loading. As development progresses, a minimum of two new zone substations and several new main-line HV distribution feeders will be required. The developer will be required to provide suitable sites for the future zone substations, each a minimum of 1.44Ha. Preliminary investigations by Wood and Grieve Engineers indicate that ideal locations for the two zone substations may be at the corner of Kemerton and Wellesley Road and the corner of Kemerton and Treasure Roads, as shown on the Preliminary Power Layout Plans.

Western Power has advised that the design, supply and installation of the zone substations will potentially be undertaken by Western Power at no cost to the developer. Costs for HV feeders and HV equipment to the proposed lots must be met by the developer, however Western Power is unable to provide an estimate of these costs at this time due to the preliminary nature of the feasibility study and uncertainty of zone substation locations and cable routes.

11.3 Gas

The existing Dampier to Bunbury Natural Gas Pipeline (DBNGP) Kemerton Lateral traverses the site and is owned and operated by DBP. The DBNGP corridor is proposed to be widened from 15m to 50m. Supply to the development would most likely come from the existing Kemerton Meter Station located in Devlin Road via a Pressure Reducing Station and reticulated gas mains designed and installed by ATCO Gas and funded by the developer or individual industries, depending on demand. In the case of high gas users, gas may be taken directly from DBP via individual lateral pipelines. It is likely that the existing capacity of the Kemerton Meter Station may be exceeded as development of the KSIA progresses, requiring the meter station to be upgraded to suit.

Detailed investigations and modelling to determine likely gas demands for the subdivision, together with an engineering study by DBP, would be required to ascertain the timing and scope for such Meter Station upgrade works.

Wood and Grieve conclude that the most logical option would be for industries that require a gas supply to negotiate directly with ATCO Gas for installation of gas mains to suit their own individual requirements, as per common practice in heavy industrial areas. It may be viable to install a medium pressure PE network to the Support Industry Area only, however this would be dependent on gas requirements in this area, which cannot be determined at this time.

11.4 Telecommunications

Telstra has advised supply to the first stage of development will potentially be provided via the extension of services from an existing network building in Marriott Road. Major infrastructure upgrades and extensions may be required to service the KSIA, potentially requiring capital contribution from the developer. Registration of the development via Telstra's Smart Communities is required for preliminary infrastructure planning to be progressed.

11.5 Central Service Corridor

The Structure Plan design accommodates a common purpose service corridor along the alignment of the proposed north-south Kemerton Road. This corridor is envisaged to accommodate the road reserve, the existing 132 kv transmission line, a 10m industry pipeline for existing and future industry pipe conduits, a buffer to the pipeline and the earmarked railway reservation. A Preliminary Services Corridor Cross Sections plan has also been prepared by Wood and Grieve Engineers (Refer to Figure 26 and Appendix D) showing the typical section through the proposed central service corridor. The width and configuration of the service corridor shown is preliminary only and subject to detailed design and authority approvals.

This common alignment achieves efficiencies in shared corridors such as road reserves reducing the need for transmission easement widths and buffers. Landscape objectives are also achieved by providing landscape screen planting along the edges of the corridor within lots.

Road reserves within the KSIA may need to accommodate private service connections between industries. The private services are expected to be more of a local connection. At this stage it is unclear as to what extent these interconnections would be required. However, the provision of the 10m wide industry pipeline corridor within the proposed Kemerton Road alignment is deemed sufficient for this task. A minimum road width of 30m is recommended within the KSIA.

It is noted that the Kemerton Industrial Park Strategy Plan (2009) showed a wider north-south corridor (275m in width) than what is proposed under this Structure Plan. The previous service corridor included provision for a 60m wide 330 kv transmission line, which is no longer needed. The corridor also included 50m wide landscape buffer on either side of the corridor. For land use efficiencies, practical implementation and ongoing maintenance reasons, these landscape buffers should be contained within industrial lots.

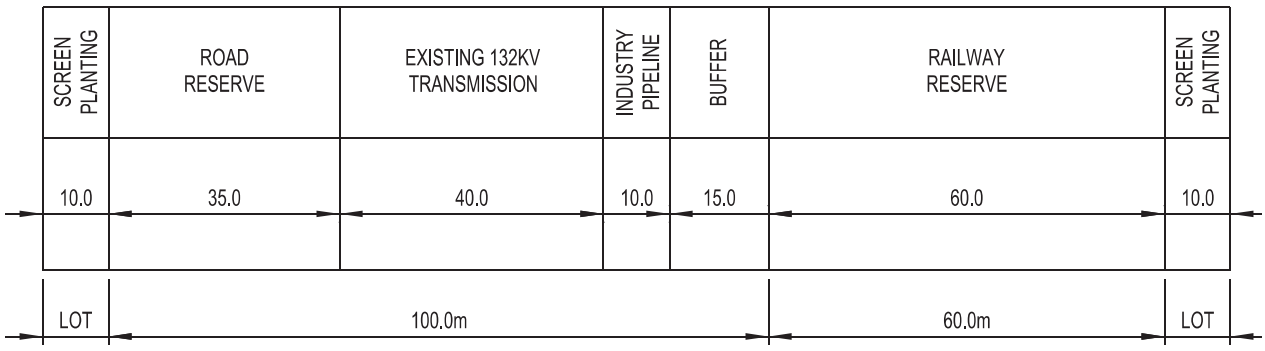


Figure 26 Central Service Corridor

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12. Water Management

12.1 Stormwater Management

The site will effectively manage stormwater through the implementation of Water Sensitive Urban Design (WSUD) principles and Best Management Practices (BMPs) to control water quality and quantity from both minor and major storm events.

A Overarching Water Management Strategy has been prepared by RPS (refer to Appendix F). In accordance with the Stormwater Management Manual for Western Australia (DoW 2004–2007) and the Department of Waters Water Quality Protection note 52 'Stormwater Management at Industrial Sites' (May 2010), the drainage system for the KSIA will aim to achieve the following objectives:

- Maintain the existing hydrological regime by allowing the infiltration of uncontaminated water on site and limiting discharges from the KSIA to pre development peak flows and volumes.
- Uncontaminated stormwater runoff from roofs for example will not be allowed to mix with process effluent and stored chemicals to allow for the infiltration of uncontaminated stormwater and recharge of the Superficial aquifer.
- Rainfall up to the 1:10 year ARI event will be retained and infiltrated within lot boundaries through the use of soakwells. Lot runoff in excess of 1in 10 year ARI event shall discharge to road side swales.
- Road side conveyance swales shall be sized to convey the critical 10-year ARI storm events from the road reserves wherever possible to minimise the use of a piped drainage network.
- Large rainfall events (>10 year) up to the 1:100 year ARI event will be conveyed through overland flow and road side swales to drainage detention basins within the site for storage and/or treatment prior to infiltration.

12.1.1 Minor Drainage System

Rainfall will be retained on site and infiltrated as close to source as possible through the use of the following practices:

- All rainfall on the permeable surfaces, particularly uncleared land surrounding the Lots will infiltrate as per existing conditions.
- The use of rainwater tanks to collect run off from roof areas will be encouraged as a potential source of water, and as a means of reducing enhanced run off from paved surfaces.
- Lots will infiltrate rainfall in events up to the 1:10 year ARI event through the use of soakwells
- Road drainage within the development will incorporate roadside conveyance swales and limited piped network designed to accommodate the 10 year event.
- Roads throughout the KSIA will incorporate roadside swales where possible. The swales will typically be 0.6 m deep and 3.6 m wide at the surface. Road side swales through catchment 2 and 3 will require larger or deeper swales (we have modelled 9 m wide swales at the surface that are 0.6 m deep), however this will need further refinement once the actual Lot sizes and locations are confirmed at the detailed design phase. Swales can be located on one side or both sides of the road reserve, the location will be affected by the final placement of services and the railway line. Refer to Figure 27 below for a schematic diagram of a typical cross section of the possible road and road side swale design at the KSIA.

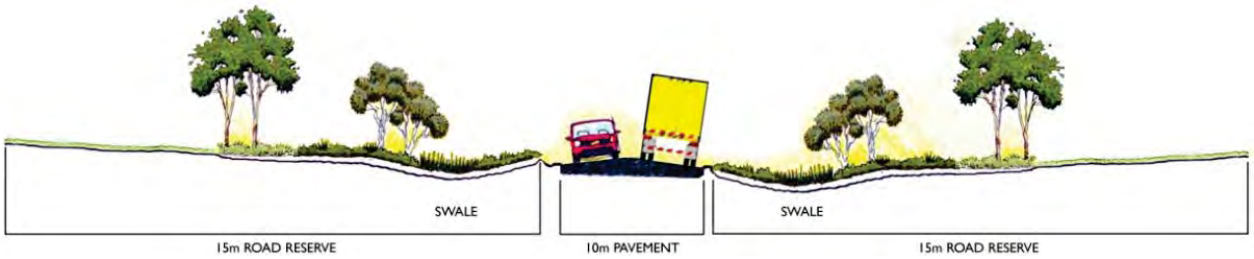


Figure 27 Schematic Cross-section of Road and Swale Design at the KSIA (Source: RPS, LWMS, 2014)

12.1.2 Major Drainage System

Due to the expansive area, the KSIA needs to be designed with a mix of water sensitive design and traditional design methods. Water sensitive design principles will be employed for the minor events while traditional design methods will need to be applied in areas where a shallow water table is present (eastern extent of the KSIA), notably using earth fill to construct pads for buildings, roads and car park or hard standing areas.

Various engineering reports have been prepared throughout the development and planning of the KSIA to provide drainage strategy recommendations; many however rely on the artificial lowering of groundwater below the AAMGL by using sub soil drainage systems to minimise fill and incorporate traditional piped drainage systems, as they reflect the policy requirements prior to water sensitive urban design. We believe these approaches would no longer be acceptable to the DoW as the wetlands would be impacted and nutrient rich groundwater would be exported from the site and discharged to the Wellesley River.

The refinement of the drainage strategy, incorporating current drainage best practice, is to maximise the infiltration within the development area of each Lot. Broadly, this strategy relies on the use of undeveloped/ uncleared areas on each Lot for infiltration, along with the use of soakwells for run off from 'clean water' sources including roof areas and pedestrian paved areas surrounding the building pads, to avoid the need for substantial drainage control structures.

The strategy also relies on the use of the Multiple Use category wetlands as drainage infiltration basins or existing topographical low points for storage and infiltration of the larger flood events. It should be noted that the Multiple Use wetlands are 'sumplands' which are seasonally inundated with runoff and groundwater inflows. They typically occur on the eastern side of the KSIA, and their use as drainage basins is consistent with their Multiple Use management category, provided that the hydrological functions (eg seasonal inundation) and any remaining ecological functions are preserved. As the basins are intended for flood storage, the pattern of seasonal inundation will continue. The road side swales will provide an important function in the storage of stormwater in major events also.

The revised drainage strategy for major events, incorporating current best practice, involves the following:

- Filling of land parcels within each Lot to provide adequate building envelopes and a minimum clearance of 1.5 m to AAMGL.
- Lots to infiltrate all events up to the 10 year ARI through the use of soakwells for 'clean' hard standing areas and infiltration in undeveloped portions of Lots.
- Events greater than the 10 year ARI from the Lots will be directed to the road reserve and road side swales (designed to have capacity for the 10 year ARI).
- Road side swales and overland flow through the road network will convey large flood flows to detention basins for storage and treatment prior to infiltration. Flow to Wellesley River shall be maintained at pre-development flow rates to ensure the hydrological regime and water quality is maintained at pre development conditions.

Additional information regarding the proposed stormwater management strategy and water quality treatment measures can be sourced from the Overarching Water Management Strategy provided in Appendix F.

12.2 Groundwater Management

Many of the proposed stormwater management measures will improve stormwater quality and subsequently groundwater quality through the following mechanisms:

- Groundwater for industrial use to not exceed the DoW groundwater allocation available at the KSIA to minimise disturbance to wetlands and existing users.
- Maintain groundwater levels and quality at pre-development levels by encouraging infiltration where possible and suitable through the site.
- Reducing water velocities by adopting water sensitive design measures to allow for infiltration at source of the common rainfall events, retention of remnant vegetation where possible and the use of grassed road side swales in lieu of a piped road drainage network. Road side swales will incorporate rick pitching and structures (weirs) to reduce water velocities.
- Use of soil amendment, in drainage basins and beneath development building pads to reduce the leaching of nutrient and contaminants through the soil profile and into the Superficial aquifer.
- Implement a surface and groundwater monitoring program during and post development to verify that pre-development conditions are being maintained. The monitoring requirements are detailed in the LWMS (Appendix F).

12.2.1 Groundwater Levels

Current DoW policy requires that drainage structures be designed with invert levels above the maximum groundwater levels. This is intended to ensure that no groundwater below the MGL is exported from the site by pipes or constructed open swales. It ensures that groundwater contributions to wetlands are maintained at existing levels and groundwater discharge is not above current levels, so as to minimise the export of nutrients.

Water sensitive urban design concepts to be implemented on site, for example soakwells, swale drains (to replace a piped road drainage network) and infiltration of stormwater in undeveloped (permeable areas) of each Lot promotes the infiltration of rainfall and recharge of the Superficial aquifer at source.

An acceptable clearance to finished floor levels from AAMGLs will be provided as required by the Shire of Harvey and DoW. The geotechnical report recommended a clearance of 1.5 m to AAMGL for finish lot levels to be achieved.

Stormwater storage areas and swales will be designed with a 0.3 m clearance from the base of the swale to maximum groundwater levels (MGLs) to ensure that water is infiltrated within the required 72 hours (WAPC 2008a).

12.2.2 Groundwater Quality

Groundwater quality will be maintained at predevelopment conditions and possibly improved through best management practices. In addition to the practices summarised in Section 7.0 and 8.0 above, additional industry specific BMPs that may be used across the site include:

- Industry operators within the site will be required to implement Industrial BMPs for their industry with regard to protection of water resources. These may include oil and water separators or bunding of vehicle wash-down areas and limitations on the quantity and period of time, hazardous materials can be held on site.
- The use of vegetated swales and bunding where possible to divert and collect water in suitable uncontaminated areas of the Lots for infiltration.
- The use of a clay layer or impermeable membrane under building envelops to ensure no leaching of contaminants to groundwater.
- A post-development groundwater monitoring program within Lots and reporting to the DoW to ensure compliance with prescribed license conditions and environmental impact reporting.

12.3 Wastewater Management

12.3.1 Industrial Wastewater

The Water Corporation does not support reticulated waste water collection from industrial sites for treatment in conventional waste water treatment plants. Industrial estates by nature of layout, discharge type and potential high flow rates are not readily compatible with domestic treatment processes. Industrial treatment, reuse and disposal are often better addressed on site or locally.

The Water Corporation has outlined the preferred options to manage industrial waste water at the KSIA:

- Industry to treat effluent to predetermined acceptance criteria and recycled on site or to a neighbouring industry (This currently occurs on site by some of the existing industries).
- Industrial Waste water to be collected centrally and recycling opportunities sought or disposal considered.
- If a critical mass of industry is reached a combined application for a common outfall could be made.

As the development timetable and occupancy rate of the KSIA is undefined at this stage in the planning process, the strategy in the short term is for site's which generate an industrial waste water, to treat the water at the lot scale to a standard where it is suitable for disposal to a nearby facility or reuse on site or by a neighboring industry.

In the long term, once a sufficient mass of industry is located at the KSIA, alternate waste water disposal options will be investigated, including the establishment of an onsite waste water treatment and recycling plant.

12.3.2 Commercial Waste Water

The population of employees expected to travel and work at the KSIA on a daily basis is not expected to warrant the demand and expense of the infrastructure to install reticulated waste water collection sewers provided by the Water Corporation to dispose of waste water generated from toilets, bathrooms and kitchens at the Lot scale.

As an alternative, the KSIA will rely on the use of Aerobic Treatment Units (ATUs) and or septic tanks and leach drains to collect, store and treat waste water from the Lots. The location, number and type of system would be confirmed in the Urban Water Management Plan, which is to be completed as a condition of sub division and development applications submitted to the Shire of Harvey for individual lots at time of construction.

13. Implementation and Management

13.1 Roles and Responsibilities

The implementation of the KSIA Structure Plan requires a series of actions from government agencies and future industry proponents*. Table 8 captures the key roles and responsibilities of the WAPC, LandCorp, DSD, Shire of Harvey, and industry proponents to progress the development of the KSIA.

Table 8 - Roles and Responsibilities

	Undertaken	WAPC	LandCorp and DSD	Shire of Harvey	Industry Proponent
Structure Plan	Early-Mid 2015	Endorsement of Structure Plan	Prepare and amend Structure Plan	Consider to adopt Structure Plan with or without modifications	No action required.
Local Scheme Amendment No. 114	Early-Mid 2015	Grant consent to advertise and approves amendment,	Prepare and modify Amendment as required.	Advertise and consider to adopt Amendment.	No action required.
Greater Bunbury Region Scheme Amendment	Following lodgement of Local Scheme Amendment 114.	Grant consent to advertise and approves amendment,	Prepare and modify Amendment as required.	Advertise and consider to adopt Amendment.	No action required.
Subdivision Approval	As required by Proponents.	Determining authority for subdivision applications	LandCorp is a referral agency for subdivision applications.	Referral authority for subdivision applications	No action required.
Development Approval	As required by Proponents.	In some circumstances development within the Structure Plan area may be subject to planning approval by the WAPC under the provisions of the Greater Bunbury Region Scheme.		Determining authority for development applications, or in certain circumstances the WAPC.	Prepares development application in accordance with the Shire of Harvey DPS 1, Structure Plan and associated Overarching Environmental Management Plan and Overarching Water Management Plan.

* Proponent is defined as a business seeking to establish an industry within the KSIA.

13.2 Environmental Approvals – Subdivision and Development Application Stages

The KSIA has not been referred or considered under the *EPBC Act* either strategically, as a plan for an industrial park, or as an overall industrial project. As such, no overall Commonwealth approval applies to development within the KSIA.

Proponents are responsible for meeting the requirements of other State and Federal legislation that are applicable to the development application area and proposal. This includes, but is not limited to, the requirements of the *EP Act* and/or the *EPBC Act*.

An over-arching Environmental Management Plan (EMP) document has been prepared in order to provide information regarding the environmental values of the KSIA as well as outlining a process and guidance for future environmental approvals and management in line with Ministerial Statement 697 and relevant EPA factors and objectives. The Overarching EMP establishes the deferred environmental factors to be addressed by a proponent through a proposal specific EMP at the Subdivision or Development Application stages.

There are two other over-arching environmental management documents that also apply to the KSIA, specifically the Fire Management Plan (FMP) and Overarching Water Management Strategy (LWMS). Proponents that wish to develop a site will be required to prepare individual site-specific environmental management documents that are cognisant of the requirements of these over-arching documents (*Refer to Figure 28*).

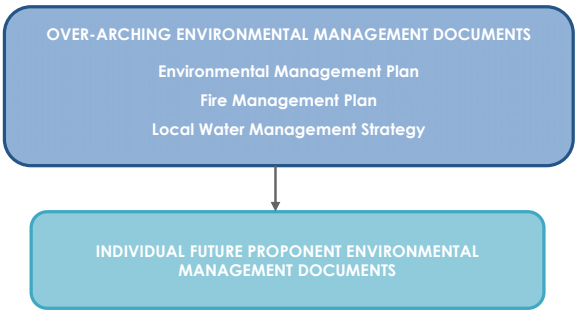


Figure 28 Proposed Environmental Management Framework (Source: Ecological Australia, November 2014)

Any conditions in a proposal specific EMP must be capable of being complied with during the execution of the proposal and not create ongoing obligation beyond the completion of the proposal. A summary outline of the future process with regard to environmental approvals is provided in Figure 29.

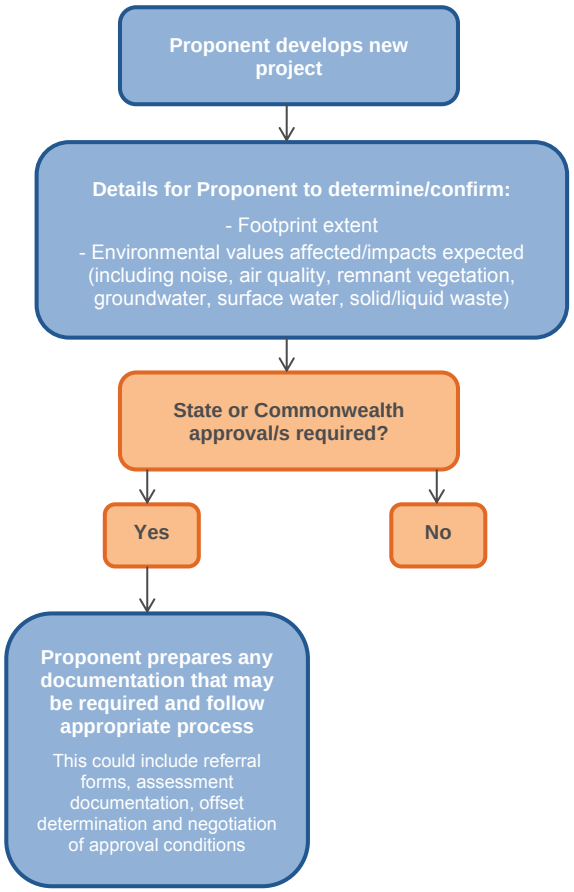


Figure 29 Summary Outline of Future Environmental Approvals Process (Source: Ecological Australia, November 2014)

13.3 Summary of Future Actions

Prior to the subdivision and/or development with the KSIA, the following actions identified in Table 9 may be required by a proponent. The individual development requirements will vary dependent upon the particular site characteristics, type of development and operations.

Table 9 - Summary of Future Actions

Component	Industry Proponent Requirements
Environmental Management	Prepare relevant documentation as per Table 3 of the Over-arching KSIA Environmental Management Plan (Refer to Appendix C).
Fire Management	Where lots are located within bushfire prone areas, proponents are required to prepare a Detailed Fire Management Plan prior to development, having regard to the Management Strategies listed in the Bushfire Hazard Assessment and Management Plan (Refer to Appendix G). Bushfire Attack Levels to be reviewed prior to development in the context of vegetation condition and proposed built form and fire attenuation measures.
Overarching Water Management	Preparation of an Urban Water Management Plan as per the Overarching Water Management Strategy (Refer to Appendix F) and the Over-arching KSIA Environmental Management Plan (Refer to Appendix C).
Hazard and Risk Assessment	Demonstrate compliance with the individual fatality risk criterion, and limit cumulative risk level, risk level for sensitive developments. Full Quantitative Risk Assessment (QRA) for a development site will need to be prepared as part of the development proposal (where relevant). Development may not be commissioned or commence processing without the Department of Mine and Petroleum's endorsement of the proposed development's QRA and Safety Report. Compliance with the *Dangerous Goods Act 2004* and the *Dangerous Goods Safety (Major Hazard Facilities) Regulations 2007.*
Infrastructure and Servicing	Prepare a servicing strategy to address how site will be serviced by water, gas, power, and telecommunications. The report should investigate the opportunity for the construction of shared services to benefit the wider KSIA.

13.4 Development Implementation and KSIA Management

13.4.1 Project Ready

DSD and LandCorp are implementing the Heavy Use Industrial Land Strategy which provides the framework for bringing priority Strategic Industrial Areas, including the KSIA, to a 'project-ready' status. This is done by undertaking necessary land-based assessments of the Strategic Industrial Area to inform future site-specific approval requirements for proponent led proposals. A benefit of this approach is that it provides greater certainty regarding the location of development footprints. This assists in the protection of native vegetation.

Proponents are responsible for the construction of all infrastructure required to service their sites. Where necessary, this infrastructure may extend beyond their own landholdings. The benefits associated with shared services are acknowledged and LandCorp and DSD will require a proponent's servicing strategy to investigate the opportunity for the construction of shared services to benefit the whole of the KSIA.

13.4.2 Project Roles and Management

Figure 30 illustrates the various project roles for State agencies and landowners in the future environmental management of the KSIA.

The DSD is the Lead Agency for the KSIA and LandCorp is a major landowner and lessor. When considering Business Case submissions from industry proponents seeking to establish within the KSIA the DSD and LandCorp will consider the proposal in the context of the Structure Plan, the supporting technical reports and operational requirements of the KSIA. This is to ensure the KSIA is developed to its full potential and follows the objectives of the project, namely to establish resource processing industries and associated supporting activity in order to fulfill its designated role as a strategic industrial area for the South-West region. This review process occurs before the lodgment of a Development Application with the Shire of Harvey.

13.4.3 Buffer Management

The primary objective of the Buffer Area is to ensure that the impacts of industries located in the Core Industry Area do not adversely impact on premises beyond the boundary of the KSIA.

It is acknowledged that there is land within the Buffer (including land zoned as Regional Open Space) that is currently owned and managed by DPaW for biodiversity conservation purposes (some of this land was historically transferred to DPaW for conservation management as part of the overall concept for development of the KSIA). It is expected that biodiversity conservation management within the Buffer will increase in the future as offsets are determined for future projects.

A detailed Buffer Management Plan (including monitoring requirements) is expected to be developed in the future as the area being managed for conservation is further consolidated.

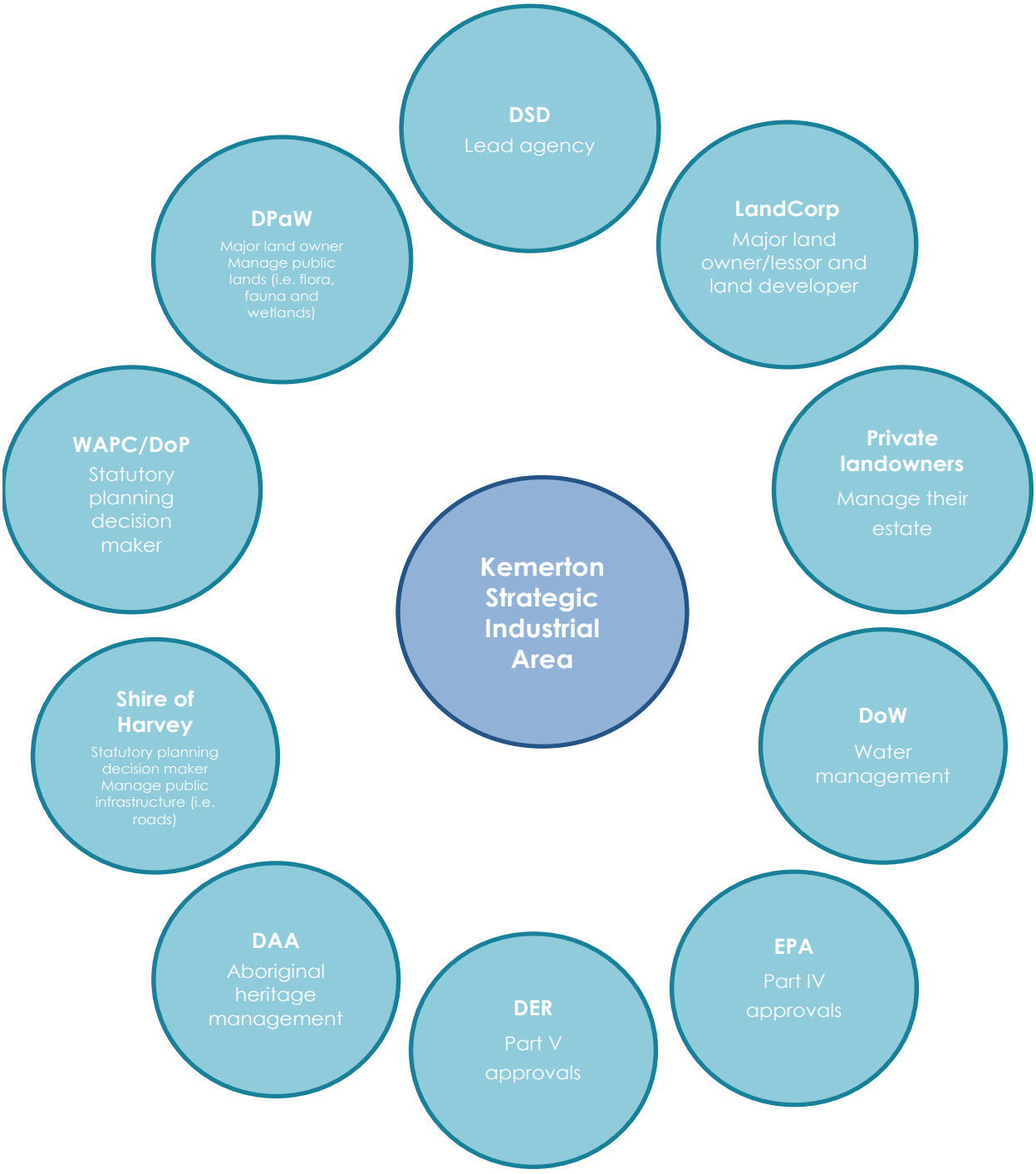


Figure 30 KSIA Project Roles

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The Appendices listed below are provided as separate technical reports on the attached CD.

Appendix A - Economic and Social Analysis Report (Syme Marmion and Co)

Appendix B - Previously Completed Studies for the KSIA

Appendix C - Overarching Environmental Management Plan (Ecological Australia)

Appendix D - Civil Servicing and Engineering Report (Wood & Grieve)
(Report includes Transport Assessment (Transcore) and Geotechnical Investigation Report (Douglas Partners) as appendices)

Appendix E - Sidings and Spur Rail Design Report (GHD)

Appendix F - Overarching Water Management Strategy (RPS Environmental)

Appendix G - Bushfire Management Plan (RUIC Fire)

Appendix H - Aboriginal Heritage Management Plan (Brad Goode and Associates)

Appendix I - Air Quality Modelling (Air Assessments and Environmental Alliances)

Appendix J - Quantitative Risk Modelling (ERS Environmental Risk Solutions)

Appendix K - Environmental Noise Assessment (Herring Storer Acoustics)

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State Administrative Tribunal

Planning and Development Act 2005

Matter No. DR 63 of 2022

IN THE MATTER OF

Catalano Pty Ltd Applicant

and

The Shire of Harvey Respondent

STATEMENT OF LINDSAY STEPHENS

Date of Document	18 July 2022
Date of Filing	18 July 2022
Prepared for:	B&J Catalano Pty Ltd

Prepared by:
Lindsay Stephens
Landform Research
Unit 1, 49 Birdwood Avenue
COMO WA 61152

Ph: 9474 3978

Email: landform@iinet.net.au
Ref: Catalano-Lot7

INTRODUCTION

1. My name is Lindsay Stephens of Unit 1, 49 Birdwood Avenue, Como.

2. I am qualified as a geologist and plant ecologist, and am the Director of Landform Solutions, a specialist consultancy providing services primarily to the mining industry and industries associated with the extraction of basic raw materials.

3. A copy of my curriculum vitae is attached to this Statement at **Annexure LS-1**.

4. I have been retained by the Applicant, B&J Catalano Pty Ltd (**BJC**) to provide a review and analysis of the sand resources currently available in the Peel – Bunbury region and the Shire of Harvey, and specifically to consider whether there is sufficient availability of sand to meet the requirements of the development industry, having regard to the significant requirements for sand and other basic raw materials also currently being experienced in respect of the construction of the Bunbury Outer Ring Road (**BORR**). I understand that this analysis will be provided to the Minister for Planning for consideration in the determination of an application for review of a decision by the Shire of Harvey, refusing development approval for an extension of the existing sand extraction operations carried out by the BJC on its property at Lot 7 Runnymede Road, Wellesley, which has been called-in by the Minister from the State Administrative Tribunal under the provisions of the *Planning and Development Act 2005 (WA)*.

5. I refer to the background information relating to this matter contained in the submissions filed by Thomson Geer, including information regarding Lot 7 and the locality, the history of approvals and extraction operations on Lot 7, and the application made by BJC for the extension of those operations, which was refused.

6. A copy of my report is attached to this Statement as **Annexure LS-2**.

7. I confirm that the comments contained in this Statement and in **Annexure LS-2** are a true and accurate record of my views and opinions in relation to this matter.

Lindsay Stephens

Date: 18 July 2022



LANDFORM RESEARCH
ABN 29 841 445 694

Lindsay Stephens BSc, MSc, Dip Ed, FIQA, MEIANZ, MAIG

Landform Research has operated a Geotechnical and Environmental Consultancy since 1987. The special expertise is related to Quarries and Regolith, extending from the Geology through the Land Systems to Land Use Impacts and Vegetation. A major emphasis of the consultancy is the assessment, operational and environmental management of quarries and land capability. The aim is for quality, combined with personal, friendly service at competitive rates.

Landform Research specialises in "reading" the geology, regolith and land systems in the field. The advantage is that a client only deals with the experienced person who undertakes the field work. The breadth and depth of qualifications, expertise and experience means that management issues can often be assessed during one field visit without the need for additional consultants. When required, Lindsay will select the best external personnel available for particular tasks and opinions.

A speciality is knowledge of, and gaining approvals, including through the State Administrative Tribunal.

A wide range of instruments are available to provide detailed in-field data on regolith, basic raw materialssoils, geology, geotechnical hydrology, nutrients, salinity, and land quality.

Lindsay Stephens

- Bachelor of Science (Geology/Geomorphology - Tas 1969).
- Master of Science (Indigenous Plant Ecology) - UWA, 1986.
- Diploma of Education (1977).
- Fellow Institute of Quarrying (Aust)
- Member Australian Institute of Goscientists.
- Member Environment Institute of Australia and New Zealand.
- Member Australian Geomechanics Society: Engineers Australia
- Certificate IV ISO 14001, Environmental Management Systems.
- Completed Quarry Manager's Exam (non blasting).
- Public and Professional Liability Insurance.

May 2022

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Expertise

- Speciality in the basic raw materials, quarry approval processes
- Geology and Regolith mapping.
- Quarry assessment, management and impact.
- Soil surveys, land capability and assessment.
- Hydrology of superficial aquifers.
- Water Management Plans
- Geotechnical studies.
- Acid sulfate assessment of soils.
- Industrial rocks and minerals; location and management.
- Mining Tenement Reporting, AER, EARS, SRS, Project Management Plans
- Environmental Management Systems to ISO 14001.
- Nutrient assessment and management. Waste water disposal. SSE Assessment.
- Botanical surveys and knowledge of the flora of the south west of Western Aust.
- Rehabilitation techniques and species for restoration of disturbed land.
- Coastal and estuarine conditions including coastal risk.
- Educational and Training Materials and Natural History Writing.

Geological - Geotechnical Assessment

Work to AUSIMM, AS 1726 and 2870, Aust Geomechanics Society, Drilling and Acid Sulfate.

Geological

Sampey Exp Services 1970/71	Drilling, geochem and geol of base metals, gold in Tas, Qld and Vic
Midland Brick 1988 - 2017	Potential schist and kaolin deposits in south western Australia.
Cliffs Robe River 1971	Mapping pisolitic iron ore deposits.
B and J Catalano 1995 - 2022	Location and assessment of ferricrete, hard rock and other resources.
Lasmo Runto Ltd 1996	Air photo interpretation of potential oil reservoirs, Kalimantan
Geology of resources for WA	Geological mapping for quarries, drilling of resources and evaluation.
Limestone 1980 - 2022	Hard rock, limestone, sand, gypsum, sandstone, dimension stone

Geotechnical

Health Department 1997	Geotechnical study, proposed extensions Kalamunda Hospital
Hanson Cons. Mat. 1988-2015	Diamond Drilling Red Hill Hardrock Quarry and on going assessment
Geotechnical Investigations, various clients 1995 - 2017	Site suitability for effluent disposal, throughout the south west of Western Australia. Includes excavations, drilling and costeaning.
Landcorp 2002-2015	Hopetoun, Industrial Sites, Latitude 32
Planning Enterprises 2006 -	Caravan Park and subdivisions and waste water considerations
Shire of Esperance 2003-2008	Shark Lake Industrial Precinct geotechnical and hydrology

Coastal Risk

Shire of Carnamah 2001	Geotechnical assessment of coastal limestone risk. HB 203.2000
Shire of Coorow 2002	Geotechnical assessment of coastal limestone risk. HB 203.2000
Shire Augusta-Margaret River	Geotechnical assessment of coastal limestone risk. HB 203.2000
City of Joondalup 2009-2010	Geotechnical assessment of coastal limestone risk. HB 203.2000
Shire Peppermint Grove 2015	Geotechnical assessment of coastal limestone risk. HB 203.2000*

Developmental and Environmental Management of Quarries

Development Applications, Extractive Industry Licences and Mining Proposals, Excavation Management - environmental impacts/management, safety, rehabilitation etc.

Clay Quarries

Midlandl Brick 1988 - 2020	Toodyay, Bolgart, Red Hill, Swan Valley, Bullsbrook, Gidgegannup,
Austral Brick 2000 –	Lower Chittering, Muchea.
Brikmakers 2012 - 2019	Clay reserve investigations

Limestone/Gypsum Quarries

WA Limestone 1989 - 2022	Nowergup, Two Rocks, Hope Valley, Kwinana.
ADBRI - Cockburn Cement	Nowergup, Yanchep, Dongara, Ledge Point, Munster, Exmouth,
1997- 2022	Rawlina Nowergup - Gypsum Kalannie, Lake Cowcowing, Lake Brown,
Italia Stone 2001 - 2022	Nowergup, Hope Valley
Various - 1988 – 2022	Lime Industries (Lancelin, Wedge Island, Boranup), Stone Ridge, Meteor Stone,
Gypsum Supplies 1995 - 2022	Lake Hillman, Lake Cowcowing, Lake O'Grady, Lake Seabrook
Triple M 2000 - 2022	Salmon Gums and Esperance.
Development WA 2020 - 2022	Flyne Drive Limestone for Ocean Reef Marina

Hard Rock Quarries

Boral Resources	Orange Grove, Toodyay, Karratha, Northampton, Onslow, Kimberley
WA Bluemetal 1998 - 2022	Whitby, Karratha, Onslow, Kimberley, Pilbara
B and J Catalano 2014 - 2022	Shenton Ridge Quarry
Hanson Construct 1988- 2022	Byford Quarry, Walkaway, Byford, Gelorup, Red Hill, Herne Hill, Mt Barker, Karratha
Italia 2010 - 2022	Roelands, Northam, Whitby,
Esperance Port Authority 2002	Port Quarry development
Various	JJ Hawkins - Morawa, B, Guthrie, Northam

Gravel Quarries

Quarry Park 1995 - 2004	Walyunga, Serpentine, Jarrahdale, Bullsbrook, Gidgegannup, Gingin
WA Limestone - 1998 - 2022	Pickering Brook
B and J Catalano 2002 - 2022	Various quarries throughout the south west of Western Australia
Various clients 1998 - 2022	Shire Serp-Jarrahdale - Byford, STEG, Cityworld, Hall-All

Dimension Stone

Meteor Stone 1997- 2021	Sandstone at Donnybrook - Kimberley. Limestone at Nowergup
Italia Stone Group 2000 - 2021	Donnybrook sandstone, limestone block cutting
Various 1994 - 2021	Granite, sandstone, limestone

Sand Quarries - Limesand

Various clients - 1998 - 2022	Limestone, Toodyay stone, granite, dolerite quarries, Holcim 1988 , Cook Industrial Minerals 1998 - 2022, RJ Vincent 1996, Italia 2002 - 2022, , Action Sands 1998 - 2022, NLG Sand Supplies 1996 - 2022, Hanson 2008 - , - , WA Limestone 1988 - 2022, Esperance 2000 - 2022, JJ Hawkins 2008, Shire of Exmouth, Empire, Enmic, Urban Resources etc

Land Capability, Geotechnics, Regolith and Land Systems Mapping. Environmental Management of Developments

Land capability and geotechnical assessment including geology, soils, hydrology, nutrient impact and management, vegetation, wetlands and geotechnics. Geotechnical assessment to AS 1726, 2870, 1547, 3798.

Planning Strategies

Shire of Dandaragan 1994	Rural Planning Strategy and input to Aquaculture Planning Strategy
Taylor Burrell Barnett 1996 -	Structure Plans (Denmark, Bow River), Baldivis, Dandalup
Department of Agriculture 2000	Stocking rate Guidelines - small rural holdings,Swan Coastal Plain
Shire of Greenough 1998	District Rural Planning Policy- associated with O'Brien Planning
Coastwise 1998 - 2005	City of Cambridge Coastal Study, Woodman's Point Manag. Plan
Thompson Palmer 1998	Management Plan Susannah Brook
Shire of Northampton 1999	District Rural Planning Strategy- associated with O'Brien Planning
Shire of York 1999	Rural Planning Strategy - associated with Gray and Lewis
Shire of Greenough 2000	Chapman River Management Plan
Shire of Esperance 2000	Environmental Management subdivision guide plan – Flinders Estate
Shire of Chapman Valley 2001	Rural Strategy - associated with HTD
Shire Augusta-Margaret River	Coastal Management Plan 2004
Shire of Carnarvon 2000 - 2007	Formal Environmental Review of Shire TPS 12

Industrial - Sites

City of Armadale 1996 - 1999	Forrestdale Industrial Structure Plan - environmental and geotechnical
Shire of Katanning 1997	Shire of Katanning Industrial Precinct Structure Plan
Opal Vale Pty Ltd 2009 - 2010	New municipal waste disposal site Toodyay
Ace Nominees 2001-2009	Public Environmental Review proposed amphitheatre site, Red Hill
STEG Pty Ltd 2000 - 2010	Inert waste sites Brookton, Bedfordale,
Hanson Concrete 1995 - 2003	Concrete batching sites.
S Farrell 2002 - 2003	Landfill site assessment - Toodyay
Vispo Holdings Pty Ltd 2004	Landfill site assessment - Bullsbrook
Integrated Livestock 2005	Integrated lamb finishing, abattoir and waste water management
East Dist Reg Council 2006-10	Investigations and approval of regional landfill site
Shire of Lake Grace 2008-2009	Investigations of municipal landfill sites and New Newdegate Landfill.
WA Limestone 2014 - 2022	Kerosene Lane Facility
Great Southern Reg Waste 2010	Investigations for regional landfill site
Shire of Esperance 2003 - 2006	Shark Lake Industrial Park - environment, geotechnics, hydrology

Rural Land Assessment

Various	Geraldton, Walkaway, Moresby Coronation Beach.
Dykstra Planning and others	Mundijong, Roleystone, Mundaring, Bedfordale, Serpentine.
Statewest Planning and others	Gidgegannup, Baldivis, Bullsbrook, Mundaring, York, Chittering,
Greg Rowe & Assoc 1998 -	Nowergup, Gidgegannup
Belton-Taylforth , Land Insights and others	Williams, Gidgegannup, Wandering, Wannamal, Brookton, Beverley
The Planning Group 1999	Barragup, Guilderton
Ayton Baesju Plan 1996 - 2021	Special rural subdivisions at Albany, Porongurup, Mt Barker,Hopetoun
Various 1989 - 2005	Jurien, Cervantes, Hopetoun, Esperance etc
Rizzo and Assoc 1994 - 2000	Barragup, subdivisions at Nannup, Pinjarra, Benger, Gidgegannup
Landvision	Rural subdivisions Hopetoun, Jurien, Narrogin
Planning Enterprises	Narrogin, Wundowie, Chittering
Planning Solutions	Gabbadah, various
Shire of Esperance	Wharton Beach, Subdivisions, Geotechnical, vegetation surveys etc
Gray and Lewis	Subdivisions at Koorda, Lesmurdie, Esperance, Serpentine, Northam, Neerabup, Nowergup, York, Lake Clifton, Toodyay, Hopetoun, Forrestdale, Narrogin, Torbay, Lancelin, Boddington, Ferguson Valley,

Nutrient Management - Waste Water

Century Park 1996 - 1997	Nutrient management of sheep holding facility, Gidgegannup.
Shire of Kondinin 2007 - 2008	Investigations of failing waste water systems – Hyden.
Integrated Livestock 2005 -	Lamb finishing, abattoir and irrigated waste water management York
Various	Water Management Plans-Nutrient Inpact and Irrigation Manage Plans
Department of Agriculture 1997	Stocking rate Guidelines - small rural holdings, Swan Coastal Plain
Landcorp 2002-2003	Waste water disposal system/hydrology - Hopetoun subdivision
Various subdivisions - 2019	Nutrient impact and management plans through the south west
City of Kalamunda 2018, 2019	Waste Water and Nutrient Management Heidelberg Park Development, Chalet Rigi development, Lesmurdie Shopping Centre, etc.
Dwevelopment WA 2022	Mount Newman Light Industrial Complex

Vegetation and Rehabilitation

Vegetation surveys, rehabilitation techniques, species, overseeing and carrying out the work.
Rehabilitation of quarries throughout the south west.

Vegetation Surveys

M Sc Thesis 1982 - 1986	Four years intensive study of 65 Swan Coastal Plain species to relate their phenology (flowering times, seed sets and growth responses to factors such as water availability, temperature, light, wind and humidity. Sup[erficial groundwater modelling and impacts.
Vegetation Surveys 1987 - 2022	Vegetation surveys throughout the south west including; Denmark, Gidgegannup, Hazelmere, Nowergup, Lancelin, Mandurah, Geraldton, The Lakes, Bullsbrook, Serpentine, Neerabup, Albany, Hopetoun, Esperance, Baldivis, Ledge Point, Walpole, Augusta, etc Assessment of Dieback in sand, hard rock and gravel quarries. Surveys of Threatened Flora, plant communities and condition.

Rehabilitation

Holcim - Readymix Group WA Pty Ltd 1988 - 1996	Rehabilitation Dollier Street Sandpit, Banjup. ***Awarded the Major Award in the 1994 Department of Minerals and Energy Environmental Excellence in the Petroleum and Mining Industry.***
Hanson Construction Materials 1990 - 2021	Rehabilitation Byford Hardrock Quarry. ***Finalist in Greening Australia Award 1995***. Visual assessment and management Red Hill Quarry sites which was awarded the ***CCAA 2015 Environmental Best Performance Award.***
Boral Resources 2000 - 2014	Assistance with Orange Grove Quarry environmental management which won a ***CCAA Award for Environmental Excellence in 2015.***
Midland Brick1989 - 2006	Rehabilitation Flood Protection Bank, Middle Swan. and quarries
WA Bluemetal 1994 - 2022	Revegetation and Visual Assessment - Mundijong Quarry
Cockburn Cement 1996 - 2022	Revegetation Management Plans in State Forest Nowergup
B and J Catalano 2005 - 2022	Revegetation Management Plans and rehabilitationin State Forest
Tuma Holdings 1998 - 2022	Revegetation Management Plans in State Forest The Lakes
WA Limestone 1996 - 2022	Limestone Quarries at Wattleup, Hope Valley, Nowergup, Kwinana, Byford. Revegetation Management Plans and rehabilitation in State Forest Pickering Brook and Nowergup.
Esperance Port Authority 2001-2002	In 2001-2002 Lindsay Stephens was part of the team of Roadstone Quarries the contractor, who extracted 400 000 tonnes of hard rock from the old and unsafe Port Quarry at Esperance, within 250 metres of the nearest dwelling. The excavation and subsequent rehabilitation of the quarry led to Roadstone being ***a joint winner of the State Golden Gecko Award for Environmental Excellence, and the State and National, Case Earth Awards for best practice and innovation in Environmental Management of civil construction.***

Environmental Management Systems

Preparation of Environmental Management Systems to ISO 14001 for quarries and other developments. Presentations to conferences and meetings.

Examples of Published Work

Bell D T and L J Stephens, 1979. ***Phenological responses of Banksia woodland species***, in SYMPOSIUM ON THE BIOLOGY OF NATIVE AUSTRALIAN PLANTS, Abstracts, Perth W.A.

Bell D T and L J Stephens, 1984. ***Phenological patterns in a south western Australian woodland***, PROC. 4th INT CONF ON MEDIT. ECOSYSTEMS, Perth W.A.

Bell D T and L J Stephens, 1984. ***Seasonality and phenology of Kwongan species***, in KWONGAN PLANT LIFE OF THE SANDPLAIN. eds J S Pate and J S Beard, Uni of WA Press Nedlands W.A.

Stephens L J, 1997. ***Walk with Time, The Bungendore Park Story***, Bungendore Park Committee

Stephens L J, 1994. ***Ancient Origins, Visitors Guide to Ellis Brook Valley***, Friends of Ellis Brook Valley (Inc).

Van Gool D, K Angell and L Stephens, 2000, ***Stocking Rate Guidelines for Rural Small Holdings, Swan Coastal Plain and Darling Scarp, Western Australia,*** Dep of Agric Western Australia, Misc Pub 02/2000.

Landform Research

Application for Development Approval
Lot 7 Runnymede Road, Wellesley

Review of the Sand Resources – July 2022
Peel to Bunbury Region – Shire of Harvey

This review of the sand resources was undertaken by Lindsay Stephens of Landform Research, based on knowledge of the quarries and sand resources, search of the mining tenement databases on Geoview and Tenegraph Web and the Western Australian Geological Survey mapping.

The considerations are made in relation to the application for Development Approval and Extractive Industry Licence application for Lot 7 and the general requirement of sand in the local and regional area.

In preparing this review, the various Planning Policies, Geoview, Geological Survey of Western Australia published mapping and in particular geological and basic raw material mapping, site inspections and drone and aerial photography were reviewed. Discussions were also held with B & J Catalano the operator of the pit on Lots 4 and 7 and who extract sand from the adjoining lot 21 to the north on behalf of Main Roads. To research the resources I examined all aerial photography from Lake Clifton through into the City of Busselton

I also reviewed the 2008 map of extraction site provided in the DPLH 2012 basic raw materials Demand and Supply for the Bunbury Busselton Region (page 28) attached as Figure 2). That mapping lists all resources including hard rock, limestone and sand no matter how small.

I have been associated or been to many of the listed or identified sand and other resources,and for others I reviewed them from detailed aerial photography including using sections generated from Google Earth Pro and published groundwater date to determine the potential resource volumes.

The review assessment is compliant with Institute of Quarrying Australia and Australian Institute of Geoscientists, and the JORC Code for resource information.

1. Resources Overview

1.1 Bunbury and South of Bunbury

The sand resources, Bassendean and Spearwood Types, south of Bunbury are very limited.

The yellow earthy Yogannup type sands associated with heavy mineral sand mining contain too much clay to be sufficiently free draining for dwelling construction.

The City of Busselton and Shire of Capel have limited small sand resources and are struggling to supply their own needs.

and restricted to small sand pits, which will all be exhausted by the Bussell Highway upgrades and the construction of the Bunbury Outer Ring Road (BORR).

The City of Bunbury has no sand resources.

There is locally some sand on lower ridges but that is limited by *Banksia* Woodland cover, conservation and nearby developments. I can only find one resource (at Gelorup) that does not have *Banksia* Woodland. It has less than 1 million tonnes and is currently being excavated.

Even using all available resources, south of Bunbury, the Bunbury Outer Ring Road and Bussell Highway will be in significant sand shortfall.

1.2 North of Bunbury

North of Wellesley Road North the sand resources of the large Spearwood Sand ridge are where the Runnymede sand operations and Myalup Pines are located. That sand resource is listed as a Significant Geological Supply (Sand) in State Planning Policy 2.4 Basic Raw Materials and Geoview.

Leached white sand (Bassendean Type) is committed for silica production in the new refinery.

Yellow sand in the Kemerton Industrial Area is committed to development of the industrial precincts. Even so, Kemerton developments will be in sand shortfall.

South of Boonilup Road, the large sand ridge rises to over 50 metres, and is located on private land covered by *Banksia* Woodland. The existing sand extraction on Lots 4 and 7 Runnymede Road (B & J Catalano) and Lot 21 (Main Road) lie on that ridge.

Lots 4 and 7 Runnymede Road (B & J Catalano) and Lot 21 (Main Roads) lie within the buffer zone for the Kemerton Industrial Area.

Lots 4 and 7 have existing Clearing Permits for cleared land with DWER appearing to have the view that a further Clearing Permit/s will be issued subject to suitable offsets.

Sand is present on Lot 11 but it cannot be accessed by road trains, which would be required for the construction of the BORR.

The private land holdings between Lot 7 and Boonilup Road, which lie outside the Kemerton Industrial Area Buffer, have all had clearing permits rejected for clearing for agriculture and other uses.

North of Boonilup Road the Significant Geological Supply sand ridges are under State Forest pine plantation, on which DMIRS and the Minister for Mines have placed a *Mining Act 1978 Section 19*.

Only one resource (M 70/1399 - Carbone) at Johnston Road (Shire of Waroona) has been released by Government under the *Mining Act 1978 Section 19.* It has an area of 16.2 hectares and an interpreted around 2.5 million plus tonnes sand depending on the depth of excavation permitted.

No other sand resources are currently available.

Tenements M/70/1319 – M70/1320 (PMR Quarries) are not granted and too far north. M70/1307 (Hanson Construction Materials) was pegged in 2012 but is not granted. To be granted there will be a significant lead time for the approvals to be obtained to excavate.

2. Need for the Sand

2.1 Residential and Construction

Sand is required for sand pads, road constructions and construction materials. The use of brick build up and split level construction will not significantly reduce the requirements for sand because the land surface has to be contoured to enable efficient servicing such as sewerage.

The Shire of Harvey Local Planning Strategy Part 2 – Basic Raw Materials, Table 11, page 44, lists the requirements of Residential sand as provided by DPLH to cover the period 2009 to 2021 as;

Residential		
Shire of Harvey	408,000 m^3	612,000 tonnes
Shire of Dardanup	611,000 m^3	918,000 tonnes
Shire of Collie	8,000 m^3	12,000 tonnes
Shire of Capel	550,000 m^3	825,000 tonnes
City of Busselton	394,000 m^3	591,000 tonnes
City of Busselton	Not listed	
Total	**1,971,000 m^3**	**2,956500 tonnes**
Non Residential	1,359,000 m^3	2,038,500 tonnes
TOTAL 2009 - 2021 + Contingency	**5,100,000 m^3**	**7 650,000 tonnes**
TOTAL 2022 - 2030 + Contingency	**6,783,000 m^3**	**10,174,500 tonnes**

Calculations can be made on a house by house basis for the Shire of Harvey. The Community Profile – Census shows that between 2011 and 2016 around 300 dwellings were constructed annually.

For dwellings, the amount of sand fill required is the fill sand, and sand for construction such as roads, concrete etc. The average fill is normally 0.5 – 2 metres thick and, with a lot size of say 350 m^2 and another 100 m^2 for construction/roads and supporting infrastructure, that relates to an average of around 450 m^2 x 1.0 m thick = 450m^3 or 675 tonnes of sand per dwelling.

Annually a conservative 675 tonnes of sand per dwelling or 202,500 tonnes of sand is required. In the eight years to 2030 around 1.62 million tonnes of sand will be required. DPLH data in the table above suggests a similar amount.

2.2 Bunbury Region House and other Construction

Around 1.2 million tonnes sand is required annually for the Bunbury Region and will be required without allowing for the BORR**.** (DPLH data Shire of Harvey Local Planning Strategy Part 2, Table 11 – see above data in Section 2.1).

2.3 Bunbury Outer Ring Road (BORR) and Bussell Highway

The sand for the BORR and Bussell Highway is additional to the 1.2 million tonne annual requirements of the Bunbury Region for dwellings and construction and is ***required within a short time frame.***

It is believed that ***the total sand requirement for the BORR is in the order of 9.0 million tonnes for the northern portion*** with an ***additional 5 million tonnes for the southern section***.

I am informed that ***B & J Catalano have already supplied around 1.4 million tonnes of sand to the BORR***.

Main Roads has an interpreted, around 5.2 million tonnes, of potential fill materials from Lot 21 which adjoins to the north. That can be expected to be mostly sand but I am informed that the excavations have encountered some limestone ridges in the floor that will reduce the available sand. Similar small limestone ridges are present in the floor of Lot 7, operated by B & J Catalano.

B & J Catalano applied for 1.17 hectares of additional sand excavation on Lot 7, the subject of this review. The Development Application will enable batter slopes to natural land surface to be moved further south and release a considerable amount of additional sand on the approved portion of Lot 7 and extending onto Main Roads resource on Lot 21 to the north. Further, it is understood that the Shire of Harvey has recently approved batter slopes to vary from 1 : 6 vertical to horizontal to 1 : 3 in the already approved extraction on Lot 7. The pit shapes affect the final batter slopes, but the additional 1.17 hectares15 metres deep is estimated to free up an additional 250,000 tonnes of sand with the potential change to the batter slopes freeing up an additional 50,000 tonnes of sand

Even so that leaves ***a short fall of around 2 million tonnes for the northern section of the BORR***.

Further, ***there appears to be a shortfall for the Bussell Highway*** and it is understood that there have been some discussions between Main Roads and B & J Catalano in relation to the potential to supply Bussell Highway from Runnymede Road.

Further ***the shortfalls do not account for the 5 million tonnes of sand required for the southern section of the BORR***, that I understand still exists.

As well as the apparent shortfalls of sand to supply BORR and Bussell Highway***, the construction of those roads will strip all available local sand resources from the Bunbury regions.***

That includes the removal of all B & J Catalano sand resources from their sand quarries on the privately owned Lots 4 and 7 Runnymede Road.

3. Current Sand Use and Requirements

The BORR has or will have stripped all B & J Catalano sand resources for the future local and Bunbury market.

B & J Catalano have historically supplied around 100,000 tonnes of sand for the local market annually from the Runnymede Sand Pits as part of the annual 1.2 million tonne requirements for development within the Greater Bunbury Region, including the Shire of Harvey.

With the stripping of all local sand resources from the Bunbury Region there will be a significantly greater demand for the fill sand from the existing pits operated by B & J Catalano at Runnymede

Road, Wellesley, and this demand from these pits is anticipated to rise significantly as they are the closest pits to Bunbury. Then there is additional demand anticipated by the Kemerton Industrial Area.

In the short term B & J Catalano have allocated all their current and future sand resources to the BORR on the anticipation that additional sand excavation from Lots 7 and 4 will be forthcoming.

Without additional approvals there will be no sand available for the Greater Bunbury Region to either complete the BORR and Bussell Highway and future development within the Region, including the Shire of Harvey for the expanding Australind and other development areas.

The small Development Application on Lot 7 that has been refused by the Shire of Harvey and the other application on Lot 4, also refused by the Shire, form part of the sand for the BORR and future sand for the Greater Bunbury Region.

4. Where can additional sand come from, and the Timing?

There are no approved sand resources within the Shire of Harvey or the Greater Bunbury Region capable of supplying the future development needs of the Shire.

The sand ridge on Lots 4 and 7 Runnymede Road Wellesley lies within the buffer to the Kemerton Industrial Area. Further north from Wellesley Road North are the only resources available to supply the future development of the Greater Bunbury Region. These lie in pine plantations with all but one tenement not approved and all other ground not yet released by Government. Those resources are further north from the Bunbury Region.

There is only one sand pit approved in the Myalup Pines (M 70/1339) on Johnston Road), located in the Shire of Waroona. That pit adds an additional round trip of 30 km to the supply of sand.

The additional distances in obtaining sand from the Myalup Pines will add to the community impacts through additional road wear, cost, and additional greenhouse emissions if used for the development of the Bunbury Region and the Shire of Harvey. ***An additional 30 km round trip distance to source 1 million tonnes of sand will add around 750,000 kilometres of truck travel.***

It is estimated that it will take around two years to access alternative sand resource from the Myalup Pines. Access will require Government to release land through tender and Mining Leases to be Pegged and Granted. It is understood that native title has been an impediment to that process.

With lead times of around two years, Banksia Woodland will be required to be cleared to access sand until it is available from the Myalup Pines.

Lots 4 and 7 Runnymede Road lie within the Kemerton Buffer and have very large, deep sand resources that mean that large volumes of sand can be extracted within a relatively small disturbance footprint. Access can be delivered quickly with the ecological values being managed through the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* and *EPBC Act 1999.*

5. Situation of B & J Catalano

Without approval for sand from Lots 4 and 7 Runnymede Road, B & J Catalano will have no sand left to supply the Greater Bunbury Region or the Shire of Harvey as all sand from the currently approved pits has been allocated to the BORR.

B & J Catalano is one of the largest employer within the Shire of Harvey and without access to resources their sand supply business will close.

Lots 4 and 7 Runnymede Road sand pit are the second largest construction sand pit in the south west and Western Australia (after the pits at Gnangara north of Perth).

B & J Catalano specifically purchased Lots 4 and 7 to supply long term sand requirements to the Greater Bunbury Region. The land was deliberately purchased within the Kemerton Buffer Area as that land had been identified as being of potential for continued excavation in the Greater Bunbury Region Scheme and in other Policies and in the decision reports of the earlier Clearing Permits.

Lots 4 and 7 rise to over 50 metres in elevation and there is around 40 million tonnes plus of sand resource, making the sand the most efficient in terms of sand supply versus clearing footprint. The ground applied for produces around 250,000 tonnes of sand per hectare. With a potential sand face of 40 metres to the hill, that efficiency increases to 600,000 tonnes per hectare up slope to the east.

Lots 4 and 7 Runnymede Road sand pits also produce specialty sands, such as concrete, brickies, plasterers sand, high phosphate retention (PRI) sand used to negate phosphorus loss to waterways.

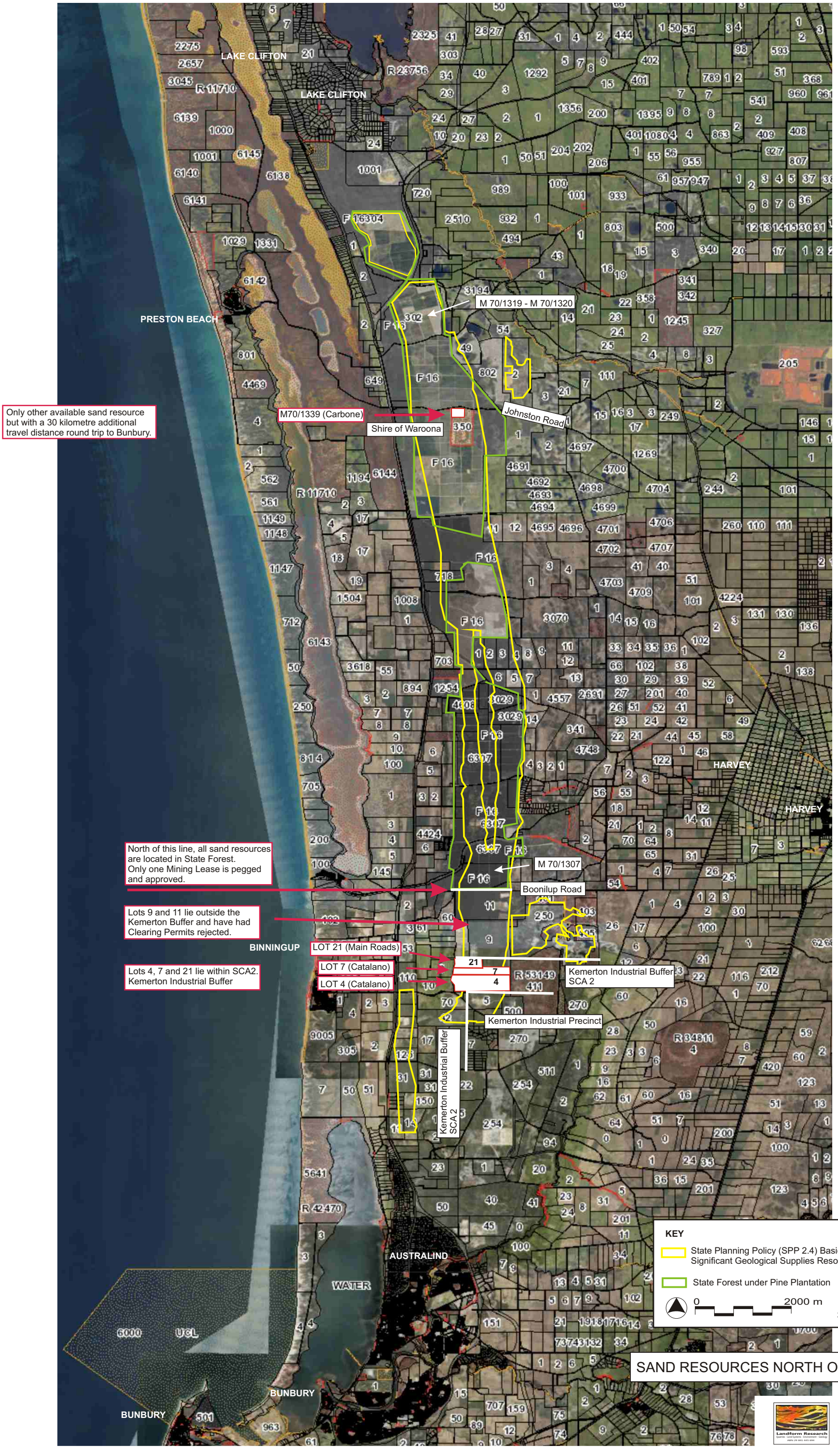
The approval of the Development Application for the 1.17 hectares applied for on Lot 7, and a change to the batter slopes, would enable an estimated additional sand volume of around 300,000 tonnes to be made available for the Greater Bunbury Region and BORR by moving the batter slopes of the Main Roads resource on Lot 21 further south.

Lindsay Stephens
6 July 2022



Landform Research

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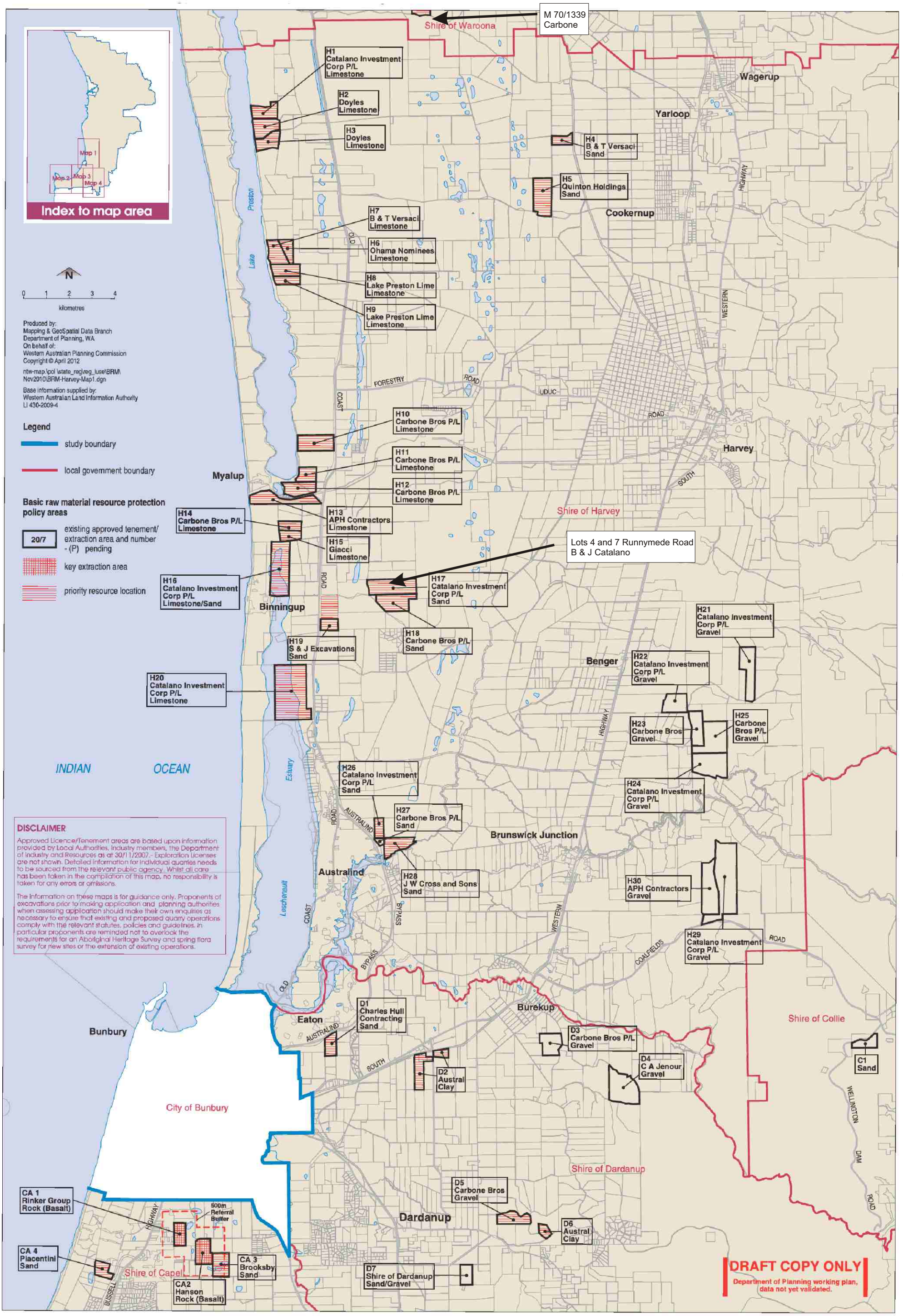


SAND RESOURCES NORTH OF BUNBURY

Figure 1

Landform Research

Map 3 2008 extractive industry licence sites in study area (Shire of Harvey, Shire of Dardanup)



2008 Extraction Sites within the Shire of Harvey and Dardanup
(Source DPLH 2012 basic raw materials Demand and Supply for the Bunbury Busselton Region, page 28

Figure 2



N

0 500m

Source **NEARMAP**

SAND EXCAVATIONS RUNNYMEDE ROAD, WELLESLEY

Figure 3



Overview of current excavation on Lot 7 showing that much of the limited amount of approved sand resource. Main Roads pit (Lot 21) lies to the north. Note the number of trucks on site taking sand to the BORR.

Figure 4



B&J Catalano

Overview of current excavation.

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Quarries - Land Systems - Environment - Geology
ABN 29 841 445 694

Figure 5



Overview of current excavation on Lot 7 and Development Application area.

Figure 6